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WESTERN GLEANER,

OR

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PROSPECTUS.

THERE is in the situation of countries newly settled, peculiar circumstances, which must for a long time retard the progress of the human mind, and the liberal culture of science and literature. The first exertions of the colonist will be directed towards the attainment of the mere necessaries of life, and the struggle against wild nature, yet unsubdued by the hand of man, will call forth all the energies of his mind. Patient industry will be required before so much stock can be accumulated as will by its re-production procure the supply of a few commodities of life. The spur thus given to industry by absolute want, will continue to operate after its primitive object is fully attained. The natural desire for ease will be succeeded by the lust of wealth, and the successes of some will excite the most strenuous emulation of the many. In this state of things the society will soon flourish and prosper, but the more noble faculties of the human mind will remain barren and uncultivated. It will soon be discovered, that superior endowments are not always necessary for the acquirement of riches, and that a steady and ceaseless pursuit of self-interest is almost incompatible with those generous and noble feelings, which are inseparable from real talent and genius. Every one pursuing

his own track in the wide road to fortune, will scarcely see in his neighbor but an instrument or an impediment to his own interested views; cold egotism will prevail, and true sociability, that friendly mother of the finer departments of knowledge, will be almost unknown. Luxury will be soon generated, but deprived of all those embellishments which science and a cultivated taste only can impart, and which operate as a salutary counterpoison against its destructive effects. To shine and to dazzle by some outward appearances of civilization, will be the aim of all who pretend to *respectability*, but the inner man will easily betray to the observer, an empty head and a torpid heart.

Happily, this melancholy picture is by no means altogether applicable to the present state of our western country. Our advances in learning as in every other kind of improvement, are truly astonishing. We see every day new schools established for the education of youth; our towns teem with newspapers for political information; the number of our bookstores and of our presses is incessantly increasing; public libraries are instituted, and societies are rising, which, in their exterior organization present all the forms of the most celebrated literary bodies. The results of discoveries made in those sciences, which are more particularly connected with the pursuits of common life, are eagerly seized upon by our artisans and manufacturers; instances of distinguished talents in particular departments of science are to be met with among us, and the Muses even have their worthy and successful votaries.

That we have still not yet arrived at the full period of our literary maturity, we shall readily grant. But the *pioneers* have cleared the ground, the road is open, and invites new adventurers. To gratify the thirst for information, which our citizens in general shew daily with an increased ardor, we have resolved upon offering to the public a periodical work, in which we shall endeavor to follow the famous precept of Horace, by blending together, as much as will lie

in our power, the useful and the agreeable.* But it will be necessary to enter into some details concerning the plan to which we mean to adhere, if not in each particular Number, at least in the general character of the publication.

Our first intention is to be practically useful. It is somewhat consoling to the reflecting mind, that whilst an overwhelming and destructive despotism spreads incessantly its direful banners over new countries, the dominion of useful science is at the same time enlarged by conquests equally glorious and salutary. But scattered as these precious additions to our stock of knowledge are in various and sometimes very voluminous works, which but seldom reach our western country, or whose prices are beyond the capacity of the most numerous class of readers, we hope that the task of selecting them and bringing them forward, under a more convenient and more accessible form, and especially disengaged of every thing that is not applicable to our circumstances, will prove to be a task not altogether ungrateful. Thus far we cannot lay any claim to originality; our principal business in this respect will be, to retail as it were, to the immediate consumer the merchandise that he may stand in need of, and which he could not easily procure in a direct manner from the more ostentatious warehouse.

The *Gleaner*, nevertheless, will be also zealously engaged in the *advancement* of science. Our western countries are as yet but little explored in a scientific respect. Thousands of discoveries will yet be made in the respective departments of zoology, botany, and mineralogy, and the economical, medicinal, and chemical uses of many of our productions remain yet to be investigated. Facts and observations relative to these various objects, will be carefully recorded by the *Gleaner*. The editor is fully sensible, how little either his personal circumstances or his abilities will admit of giving a considerable extent to his individual researches in so

* Utile dulci.

extensive a field; but he confidently relies on the liberal co-operation of every friend of science, and measures have already been taken to secure a permanent correspondence with some of the most distinguished characters.

We wish secondly to contribute towards promoting cheerfulness and improving the taste of our fellow citizens in the arts of imagination. If in many parts of Europe the various branches of fine literature are appreciated too high, we might almost pronounce that in our country they are *generally* rated too low. Imagination is treated among us, like a stranger of a suspicious nature, who is often to be shunned, seldom to be cherished, and never to be received into a more intimate company. That an exclusive culture of this faculty uncontrolled by judgment, nor rectified by observation and experience, is highly dangerous to private happiness, no one will deny. But in a *harmonious* culture of *all* our faculties, which constitutes the essential character of mental superiority, imagination claims certainly a very important part of our attention. She forms the connecting link between the grosser enjoyments of the senses, and the higher powers of our nature. Genius under every form and in every line owes to her its brightest lustre. She draws man nearer to man, she fosters and improves every sensibility of the heart, and spreads upon our more intimate connexions new and exquisite charms. The man of business returns from her enchanted walks with renovated strength to the drudgery of common life, and the philosopher to his more serious and profound studies. And how could existence be supportable for him who has been tossed by wild waves on the Ocean of life, whose best and dearest joys have been blasted by the hard hand of Fate, or what is still more grievous, by the cruel agency of envy and malice, if it were not for the fairy visions with which sportive fancy may cheer his troubled mind! But enough of this apology for that part of our publication which will be devoted to fine literature, and strange it may seem, that such an apology should at all appear necessary.

Original Reviews of American literary productions will fill a considerable part of our pages. Our well-founded diffidence in our own judgment will not prevent us from discharging the duties of criticism with the utmost candor, impartiality and firmness: we may surely err sometimes, but our error at least shall never be voluntary. Nothing can be more disgusting, nor more detrimental to the real interests of literature than those fulsome encomiums, so often bestowed in this country by indulgent friendship, and sometimes perhaps by motives of a much less excusable nature, upon productions destitute of every kind of merit. On the other hand, we shall endeavour to avoid the opposite extreme of excessive rigor and severity, which might not only contribute to stifle in the bud some rising talents of the nation, but which would likewise deprive ourselves of that title to indulgence which we have every reason to claim from a benevolent public.

We purpose, finally, to devote a portion of our journal to *translations* from the French and German, and occasionally even from the Italian and Spanish languages. In doing so, it is not merely our intention to fill troublesome vacuities, but we have imagined that the adoption of this plan might possibly be of some usefulness in a national point of view. It has been often remarked, that the American people are not as yet fully possessed of a very distinctive character. The individuals from various nations who have resorted to this country, as to a common asylum, have brought with them over the seas their peculiar manners, habits and prejudices, which even in the course of several generations have not yet entirely vanished from among their respective descendants. Our state of Pennsylvania in particular, exhibits to the observer a motley group, whose component parts far from melting into one common mass, are yet in many instances separated by the unfriendly barriers of almost invincible prejudices. To overcome these, to create mutual esteem and mutual confidence, and to render the distinctive and

commendable qualities of each nation subservient to the improvement of all, might at least be considered as a desirable undertaking. We have often thought that a man would perhaps possess a considerable degree of personal merit, by blending in his character the most shining traits of the principal nations of Europe, as they shew themselves in the most accomplished classes of society; the solid judgment of an Englishman, the sprightly manners, the urbanity and refined taste of a Frenchman, the brilliant imagination of an Italian, and the heart of a German. Something of that kind may occasionally be seen in individuals who in early life had an opportunity of frequenting the best circles of various countries. Why should not a more intimate acquaintance, with the respective literature of the most civilized nations selected with a peculiar view to their distinctive traits of character produce a similar effect on a larger scale among us? We are disposed to believe it so, but to fail even in such a scheme may still be glorious.

Before concluding these observations, we think it our duty to declare, that every acrimonious effusion of party-spirit will be carefully excluded from our pages. The republic of letters is of no party, and of no particular nation. The outcries of faction, and of public animosity, are not to be heard in her interior. Falsehood is the only enemy which her friends are always eager to pursue; *truth*, and her minister, *reason*, are the only chiefs whose orders are there obeyed; and those who would be desirous to trouble the tranquillity of her sacred retreats, would deserve to be turned out from civil society, as laboring to destroy the only pure, noble, and innocent treats--the only remains of our divine origin, which the sway of vulgar passions has left in the character and conduct of man.

That, notwithstanding our best efforts, our labors will still prove very imperfect, we have not the least doubt. We shall therefore receive, not only without displeasure, but with heartfelt thankfulness, any liberal criticism, any hint

imparted to us for the further improvement of our undertaking. But illiberal and vulgar attacks we shall always treat with deserved contempt, and with writers of this class we shall not any more wage a literary warfare, than we should condescend to enter the lists with a pugilating ruffian.

ON BLEACHING. *

THE art of bleaching is of great antiquity. The ancients were acquainted with the detersive quality of some kinds of clay, and the effect produced by the action of the atmosphere, moisture and light, on the stuffs exposed to them. Health and cleanliness rendered it necessary to devise quicker methods than these; and the property of soaps and leys of ashes were therefore soon discovered.

In the present age, the arts following science with close steps, have taken advantage of processes and detersive menstrua, the existence of which was before unknown; these discoveries have succeeded each other with such rapidity, that the last twenty years have effected a complete revolution in the art of bleaching.

This art is naturally divided into two distinct branches; the bleaching of *vegetable*, and of *animal* substances. These being of very different natures, require different processes for whitening them. Vegetables consist of oxygen, hydrogen, and carbon, of which the latter is in the greatest proportion, while animal substances, besides these, contain also a large quantity of azote, and also phosphorus and sulphur.

* Collected from the best authorities, with some additions of the Editor.

BLEACHING OF FLAX AND HEMP.

If ripe flax or hemp be examined, they will be found to consist of a thin bark, enveloping a green sap, next, the fibres or filaments that are used in the making of linen, and within that the woody part. As it is the fibrous part only that is used in the making of cloth, it is necessary to separate that from the other substances.

The *sap* or succulent part, is composed of extractive principle and water, and the first process is to separate this substance, which holds the filaments together. As soon as the flax is pulled, it is steeped in *soft* water, until the putrefactive fermentation takes place. This degree of fermentation begins with the succulent part, as being more susceptible of fermentation than the rest. Were the flax to be continued long in this state, the whole substance of it would be decomposed and destroyed; it must therefore be taken out of the water when the wood breaks easily between the hands, while it is yet green, and before the whole of its sap is separated. Well water, and brackish water, as well as that which flows over gypseous soil, accelerates putrefaction, and would injure the texture of the fibres. It is thus that a little salt accelerates animal putrefaction, while a great deal tends to prevent it; and the portion of saline substances held in solution in the water hastens the corruption of the filaments which it blackens and spoils.

This operation of *watering* is long and noxious, as it is found to destroy the fish in any stream that may be used, and the smell of the putrifying plants is extremely offensive. It is one of the improvements of the manufacture by modern chemistry to shorten this process, and to perform it with less risk of injuring the flax. If the steam of a solution of caustic alkali in water be introduced into a chamber of from 20 to thirty feet square, in which the flax is suspended, it will produce the same effect as watering, in less time, and with less expense; and also with less danger to the flax, which is frequently injured by being too long steeped.

A still more simple or perfect method of rotting hemp has been recently invented in France by M. Braalle, of Amiens.* A common kitchen boiler is filled with a very weak solution of green soap; after the water has been raised to the boiling point, it is poured out into a wide tub, in which the hemp has been previously laid horizontally and pressed with stones; in order to effect the entire immersion, the tub is covered with planks and linen cloths, to confine the heat, and prevent evaporation as much as possible. Two hours afterwards the hemp may be taken out of the tub, when it will be found perfectly rotten. The soapy liquor in the tub may be again returned to the boiler, and if fresh water with a very small quantity of soap be added, will be found to answer perfectly well for a second operation.

It is generally acknowledged that the thread extracted in this manner from hemp, is considerably superior to that obtained in the common way, and that an equal quantity of hemp rotted agreeably to the new method will produce a greater proportion of cloth, because the filaments are straighter, stronger, more pliable, and the proportion of shaws is considerably less.

Nothing remains after the watering is completed, but the woody part [which is a hollow tube] covered over very compactly with the flax. To separate these, it must be *kiln-dried* to render it brittle or frangible, but care must be taken not to apply too much heat.

It is next to be *beaten* or *broken*, either by manual labor with mallets on a sort of wooden anvils, as in the houses of correction in Europe, or by mills for the purpose. The flax is by this means divided into small fibres, and most of the wood reduced to small fragments, which are cleared away by scutching or threshing.†

* See *Annales de l'agriculture Francaise.* T. xxii. p. 289.

† An ingenious and labor-saving machine for breaking hemp is described and represented in Prof. Cooper's Emporium, V. 1. p. 467. We

Hackling is the last process, which is nothing more than drawing or combing the flax in small parcels at a time, through a pile or group of polished and sharp iron spikes, placed firmly in wood. The spikes are placed pretty close together; the front hackle is coarse, the second finer, and the third is finer again. The process of hackling answers several purposes; first, it divides the fibres of the flax from each other; secondly, it detaches the minute fragments of wood which escaped the process of scutching; and lastly, it separates the short coarse flax, commonly called the *tow*.

The flax is then ready to be *spun* into thread or *yarn*, which is afterwards manufactured into cloth by the weaver.

It is now that the process of *bleaching* begins. The linen as it comes from the loom is charged with the weaver's dressing, which is a paste of flower and water brushed into the yarn of the work, to render the stretching of it more easy. To discharge this paste, the linen must be steeped in water, of the temperature of blood heat, till the extraneous substance is decomposed by fermentation, which does not extend to the linen itself. Some bleachers boil the linen in water, but improperly, as paste is not soluble in boiling water.

Bran is often added to promote the fermentation brought on by the dressing used by the weaver; the fermentation appears by the air-bubbles, which rise to the surface by the swelling of the cloth, and the scum which rises to the top; this fermentation is acid and accelerates the process of bleaching; it continues thirty-six or forty-eight hours, when the scum begins to fall, the putrefactive fermentation commences; the cloth is then drawn, washed, and laid on the grass.

The linen after having undergone this process, is of a *greyish white* color, although the fibres of which it is com-

shall give in one of our next numbers an analytical review of this excellent publication.

posed, are naturally very white. To separate the matter that discolors it, is the business of bleaching. This grey substance is of a resinous nature, insoluble in water, and from its intimate union or dissemination through the very fibres of the flax, is difficult of separation, even by those substances that have a solvent power over it.

Alkaline leys, rendered caustic or purified of carbonic acid by the addition of quick lime, when assisted by a high temperature, have the property of dissolving resins, hence they have been employed as menstrua for this purpose. But alone the alkalis are not sufficient for completing the process of bleaching: what appears to be a single ultimate fibre of flax in grey linen, is composed of a bundle of minute filaments, closely cemented or agglutinated together by the resinous matter; therefore the potash first only acts upon the resin of the external filaments, by which means they are loosened or separated, and exposed to the further action of the air. The second boiling of potash opens a second layer, and thus successively layer after layer, until the whole is divided or opened to the centre. Were the alkaline solution sufficiently strong to force its way at once to the centre, it would act upon the filaments themselves, and destroy the texture of the cloth. Each filament, after the alkaline process, retains an impregnation of colouring matter, so intimately united as to resist the further action of it. This can only be removed by the slow and gradual influence of the atmosphere, according to the old method of bleaching, or by the modern improvement of using chlorine or the oxy-muriatic acid of the French school.

To explain the principle upon which this latter part of the process is effected, we must consider that the resin, which forms the coloring matter of unbleached linen, is composed chiefly of carbon and hydrogen; this is partly dissolved by the alkaline ley, and what remains becomes united to the oxygen of the atmosphere; flying off in the form of carbonic acid gas, or remaining as water.

The great objection to the old manner of bleaching is its tediousness, two or three months being requisite to give the cloth the necessary whiteness. It confines, moreover, the process of bleaching only to particular seasons of the year, as in winter, linen cannot be bleached at all in this way, and cotton very imperfectly. Its simplicity and the little apparatus it requires, recommend it however on some occasions, especially for the use of those country people who make their own cloth.

Method of bleaching by the atmospheric air.

After steeping the linen as above mentioned, to remove the weaver's dressing, the pieces are dried, and then submitted to the operation of *bucking*. For this purpose, a ley is prepared by dissolving in a boiler of sufficient capacity a quantity of potash rendered caustic by quick lime, to which is added some soap. The solution is heated to the temperature of blood, or to about 90 degrees of Fahrenheit, and pressed upon the pieces of linen until they are covered with the liquor. After having remained in the cloth for some time, it is run off by a stop cork at the bottom of the tub, into an iron boiler sunk in the ground, from whence it is raised into the boiler by a pump. The heat is now raised to a higher temperature, and the ley again run upon the goods in the tub; from whence it is returned into the boiler as before described, and these operations are continued, always increasing the heat for 5 or 6 hours, until the alkaline ley is completely saturated with the coloring matter taken from the cloth, which is known by its having acquired a completely offensive smell, and losing its causticity.

When we consider the effects which heated liquids have upon colored vegetable matter, we shall see the propriety of the temperature of the alkaline ley being gradually increased. Thus, when vegetable substances are hastily plunged into boiling liquids, the coloring matter, in place of being extracted, is by this high temperature fixed into them. It is

on this principle that a cook acts in the culinary art, when the green color of vegetables is intended to be preserved, in place of putting them into water when cold, they are kept back until the water is boiling, because it is well known, that in the former case, the green color would be entirely extracted, whereas, when the vegetables are not infused until the water is boiling, the color is completely preserved, or fixed. On the same principle, when the temperature of the alkaline ley is gradually raised, the extractive and coloring matter is more effectually taken from the cloth; and the case is reversed when the ley is applied at the boiling temperature, so much so, that linen which has been so unfortunate as to meet with this treatment, can never be brought to a good white.

When the alkaline ley is saturated with coloring matter, it is run off as unfit for further use in this operation. But were the linens to be instantly taken out of the tub, and carried to be washed while hot, a certain portion of the coloring matter would be again fixed into them, which is extremely difficult to eradicate. In order to prevent this, the most approved bleachers run warm water upon the cloth as soon as the impure ley is run off; this combines with, and carries off part of the remaining impurities: a stream of water is then allowed to run on the cloth in the tub, until it comes off almost transparent. The linens are now taken to the washstocks, to be further cleaned, with the greatest safety.

After the cloth has been sufficiently washed, it is taken to the field, then it is spread upon the grass, and secured by pins, water is sprinkled on it, so as not to allow it to become dry for some hours. After it has lain about half a day, the watering is less frequent, and at night it is left to the full action of the air and dews. On the succeeding days it is watered three or four times a day, if the weather be dry, and then it remains on the field till the air seems to have less effect in whitening. It is then brought back to the coppers and bucked again, with a ley somewhat stronger than the last, rinsed, and again spread out in the field. It is thus al-

ternately bucked and watered ten or fifteen times according to the weather, making the bucking stronger and stronger, till about the middle, and then weaker and weaker till towards the last.

It must now undergo the process of *souring* or steeping in some acid liquor. The acid which has been usually employed for the process of souring is formed by the fermentation of bran and water; or sometimes sour whey has been used. But sulphuric acid, very much diluted, has been found more convenient, and not more injurious. This sour is best prepared by adding to water in a large fir tub lined with lead as much sulphuric acid, as will give it the acidity of strong vinegar. The acid and water must be well mixed together before immersing the linens, which are generally steeped in it for twelve hours, drained and washed in pure water. The operation of washing must be paid particular attention to after this process; were any of the acid to remain in the goods, and to be dried into them, they would infallibly rot, although the acid has no such effect upon them while they are kept wet.

What effect souring has in bleaching, neither the practical bleacher nor the chymist have attempted to determine. It is certain, that from frequent use, it completely loses its acidity, and remains an inert substance, similar to a neutral salt.—Some suppose, and their opinion appears to be the most probable, that it is saturated with the remaining alkali which has been completely washed from the goods, others with iron, which is said to be a component part of all vegetable substances; or with earth which is likewise said to be contained in them. Whatever may be in these conjectures, it is certain, that when linens are soured about the middle of the bleaching process, it has a considerable effect in hastening forward the goods to a complete white, and in consequence, early souring has been adopted by the first practical bleachers.

After souring, the cloth is again bucked, rinsed, watered and exposed to the air, and these processes are repeated

successively till the linen has acquired the necessary whiteness.

BLEACHING

by chlorine or oxymuriatic acid.

For the discovery of this substance and of its effects on coloring matter, the arts are indebted to the justly celebrated Swedish chymist *Scheele*. The first attempt to apply it to the art of bleaching, was made by the French senator *Berthollet*, about the year 1786*. Influenced by the most liberal views, he made no secret of his experiments, and exhibited some of them in presence of Mr. *Watt*, of Birmingham, who was instantly impressed with the importance of the discovery. Early in the year 1788, an attempt was made in England by a Frenchman, to obtain a parliamentary grant, and failing in that, a patent right, for a new method of bleaching, which he professed would shorten the process, and reduce it to a few hours. Mr. Watt, however, having been made acquainted with Berthollet's discovery, and having actually applied it in practice to the whitening of 500 pieces of cloth, resisted this monopoly, and was joined by Mr. Cooper of Manchester, now Professor of Chemistry and Mineralogy in Dickinson College, Carlisle, and by Messrs. Henry & Taylor, of the same city, who had already been successful in their attempts to apply the acid to the bleaching of cotton goods, though their experiments were conducted on a smaller scale. The opposition was effectual, and no patent was granted to the petitioner. Mr. Cooper, in the meanwhile, formed the first regular establishment for the purpose of applying Mr. Berthollet's discovery in the large way, and it is to the successive experiments which the new method received under his hands, as likewise to the labors of Messrs. Henry Rupp & Tennant, that we are indebted for the great improvements operated in this branch of industry. The new method

* See Annales de Chimie II. 160.

was successfully introduced into the manufactories of Manchester, Glasgow, Rouen, Valenciennes, and Courtray; and it has since been generally adopted in Great Britain, Holland, France and Germany. Messrs. Craig & Marquedant have lately introduced it into this country, by using it in their manufactory. The advantages that result from this method, which accelerates the process of whitening cottons, linens, paper &c. to a surprising degree, in every season of the year, can be justly appreciated by commercial people only, who experience its beneficial effects in many ways, but particularly in the quick circulation of their capitals.

To give to those unacquainted with chemistry, a full and satisfactory idea of the manner in which chlorine or oxymuriatic acid gas operates the destruction of vegetable colors, would by far exceed the limits of the present article. Be it sufficient to remark, that according to the French theory, oxymuriatic acid is considered as a combination of muriatic acid and oxygen. By acting upon the coloring matter of vegetables the acid yields its oxygen to the latter, which by this means undergoes a slow combustion, terminating by the formation of carbonic acid gas, which escapes into the atmosphere. According to the new views of Sir Humphrey Davy, which, however, are not yet sanctioned by the universal assent of all the most eminent chemists, chlorine or the oxymuriatic acid gas is a simple substance, entirely deprived of acid properties, and which, when combining with hydrogen, for which it possesses a very great affinity, forms muriatic acid. In the process of bleaching with this substance, the oxygen, which acts on the coloring matter is derived from the water, which is always present in these experiments, even when the gas is employed pure and which is decomposed by double affinity, that of hydrogen for chlorine, and of the coloring matter for oxygen.

Chlorine or oxymuriatic acid gas is commonly obtained by exposing the muriatic acid to heat and evaporation, whilst it is acting on a substance which contains oxygen,

such for instance as the native oxyd of manganese, the red oxyd of lead, or red lead, &c. &c.* These two substances, muriatic acid and any one of these oxyds, being put together into a glass retort and exposed to heat, a strong fermentation will be excited, during which the muriatic acid will be converted into chlorine or oxymuriatic gas.

To save the expense of first preparing the muriatic acid, the usual practice is to mix with the oxyd of manganese, common salt and sulphuric acid diluted with water. The sulphuric acid acts at once upon the salt and the oxyd of manganese, and disengages from them chlorine.

The proportions in which these materials are employed vary in different manufactories. In one point all bleachers agree, which is, in giving a superabundance of the materials employed, by which they are certain of procuring a liquor which possesses high bleaching powers. One of the most common proportions of materials employed for making this acid, is to take equal parts, by weight, of common salt and manganese, which are intimately united together. Some bleachers moisten the mixture with water, to the consistence of a thick paste, so that the dissolved salt may incorporate more intimately with the manganese.—The charge for the distillation thus consists of equal parts of salt, manganese and sulphuric acid, diluted with an equal bulk of water.

In the above proportions of the materials, it is evident, that the quantity of sulphuric acid employed, which is by far the dearest article, is more than sufficient for expelling the gas from the salt; two thirds of the former acid being enough to disengage the latter at a moderately high temperature.—

* Native oxyd of manganese is found near Lancaster, and in Northumberland county, Pennsylvania, and in the state of Virginia. It is often combined with carbonate of lime, in which case the gas procured from it, will be contaminated with carbonic acid gas. A specimen of oxyd of manganese of a superior quality from the district of St. Genevieve, Louisiana, is in the collection of the Editor.

Hence, when equal parts of salt, manganese and diluted sulphuric acid, are used in the distillation of the oxymuriatic acid, the residuum taken from the retort is uniformly found to be supersulphate of soda combined with manganese.—The quantity of manganese is also too great, and much of this substance is wasted, though it is proper to remark, that the proportion of manganese must be subject to variation according to its quality.

Mr. Rupp of Manchester recommends, manganese 3 parts, common salt 8, sulphuric acid 6, water 12. These are likewise the proportions preferred by Professor Cooper. The bleachers in the neighbourhood of Glasgow commonly use equal parts of salt, manganese, sulphuric acid and water, as mentioned above. In Ireland, the common proportions are said to be, manganese 6 parts, common salt 6, sulphuric acid 5, water 5. In France and Germany, they vary little from the following: manganese 20 parts, common salt 64, sulphuric acid 44, water 54.

To the native oxyd of manganese, minium or red lead may be conveniently substituted, and the sulphate of lead which would form in that case the residuum, might be reduced to lead again.

The oxygenated muriatic acid is employed in four different ways for the purpose of bleaching; first, in the state of gas alone; secondly, in the state of gas combined with water, or what is called the acid; thirdly, potash is mixed with the acid to condense the gaseous vapor and destroy its suffocating odor; fourthly, oxygenated muriates, dissolved in water, are employed.

The first method, viz. employing the gas, was never used but for the purpose of experiment; as the vapor is of so noxious a quality, that to breathe it is fatal, and several people fell a sacrifice to their attempts in employing it.

When condensed in water, or in the state of oxygenated muriatic acid, it was found inconvenient in the large way, on account of the expense and difficulty in constructing the

necessa y apparatus, and the suffocating vapor which es-
car .. Large cisterns had been constructed, in which pie-
s of stuff were stratified, and the liquor being poured in
them, the cisterns were closed with lids. But this method
was soon found to be defective, as the liquor could not be
lly diffused; the pieces were therefore only partially
ched, being white in some parts and more or less color-
ed in others.

Contrivances of various kinds were constructed in order to remedy these inconveniences.* It was found, however, that the use of the oxygenated muriatic acid alone, weakened the cloth, and different methods of preventing its noxious effects upon the health of the workmen were tried without success, till it was discovered, that an addition of alkali to the liquor deprived it of its suffocating effects, without destroying its bleaching powers. The process began then to be carried on in open vessels, and has been continued in this manner to the present period. The bleacher is now able to work his pieces in the liquor, and to expose every part of them to its action without inconvenience.

Potash was at first used for this purpose; and although this advantage was unquestionably great, it was diminished by the heavy expense of the alkali, which was entirely lost. Also, the potash, which was added to the liquor, though it did not destroy its power of bleaching, diminished it, because a solution of the oxygenated muriate of potash, which differs from this bleaching liquor, in nothing but in the proportion of alkali, will not bleach at all. This is a well known fact, from which we might infer, that the oxygenated muriatic acid will lose its power of destroying the coloring matter of vegetable substances, in proportion as it becomes neutralised by potash.

* An apparatus of that kind is fully described and delineated in Dr. Tenner's work on bleaching entitled, *Anleitung vermittelst der dephlogistisirten Salzsaure zu jeder Jahrszeit zu bleichen. Leipzig* 1794. 8.

It was afterwards discovered, that the oxymuriatic acid might be combined with the alkaline earths, as lime and barytes, and also with magnesia, by this means forming oxymuriates which were soluble in water and had the property of bleaching. The oxymuriate of lime is at present used in almost all the bleaching grounds. Oxygenated muriatic acid is passed through lime, with which it combines readily, and in order to cause a larger quantity of lime to combine with the gas, the lime is mechanically suspended in the water, into which the gas is made to pass, and agitated, so as to present fresh matter to the gas. By this means, the oxymuriate of lime is formed in a very convenient manner; it is dissolved in water, and used as a bleaching liquor.*

This liquor is found to be preferable to the oxygenated muriatic acid and potash. At the great bleach-fields, in Ireland, four leys of potash are applied alternately with four weeks exposure on the grass, two immersions in the oxygenated muriate of lime, a ley of potash between the two, and the exposure of a week on the grass, between each ley and the immersions. During summer, two leys and fifteen days exposure are sufficient to prepare cloth for the action of the oxygenated muriate; then three alternate leys, with immersions in the liquor, will be sufficient for complete bleaching; nothing more will be necessary, but to wind the cloth through the sulphuric acid.

Sir Humphry Davy has suggested to substitute the oxymuriate of magnesia to the oxymuriate of lime, as being less injurious to the linen. But the high price of this article in the United States will scarcely for the present permit its being used in a large way.

Prof. Cooper has proposed,† to procure at once with-

* Specimens of this bleaching liquor may be procured at the chemical laboratory, house of Mr. James Robertson, in Liberty street, Pittsburgh.

† See Cooper's Emporium, vol. 1. P. 60.

out distillation, and in a very short time the oxymuriatic acid, and he tells us that he has used this method with the greatest success on a large scale in England. We have not the least doubt of its practibility, as *in the small way*, we have often used the same method to form the acid extemporaneously. But the spitting of the blood and the temporary cough, which according to Mr. Cooper's own confession, are thus created among the workmen, ought to render us extremely cautious in the adoption of this otherwise recommendable plan.

After having given this general outline of the use of chlorine or oxymuriatic acid in bleaching, it will be necessary to enter upon some further details concerning the proper choice of the materials, the most convenient construction of the apparatus to be employed, and those more minute rules to be observed in the manipulation. We hope, that by means of these instructions, every man, endowed with a common capacity, and without any particular knowledge of chemistry, will be capable of applying this method successfully in practical life.

(To be continued.)

FRAGMENTS

OF A HISTORY OF AGRICULTURE, GARDENING, AND TABLE LUXURIES.

A COMPLETE history of the various articles which in different ages and by different nations have been used as articles of food, and of the various contrivances employed in order to render them fit for culinary purposes, from the labor of the husbandman down to the sooty exertions of the cook, would form an interesting part of the history of civilization. We should see how in rude and barbarous ages, as among the savages of modern times, the mere and indiscriminate satisfaction of the cravings of hunger, at the easiest possible rate, have been the only consideration in this conspicuous part of our animal existence; how a few simple substances have supplied in this respect the

wants of nature at a period of civilization a little more advanced; how fancy and fashion have not only multiplied and varied at a later period the materials of our animal sustenance, but also offered them to the palate under many artificial and fantastical forms, until finally, sound reason, science, and an improved taste, have succeeded in finding out that happy medium, which at once seems to conciliate the real wants of nature, a judicious care for our health, and the sensual enjoyments of life. Such an history will scarcely ever be written; those who indulged in good eating and drinking, did scarcely care to communicate to future ages the sources of their enjoyments, and those who by their industry contributed to satisfy the wants or luxury of others, had no capacity of doing so. Poets, historians, and at a later period, writers on agriculture, furnish us occasionally with the scanty materials, which may be collected in this respect. We shall select some of these, especially concerning modern times, and abandon to a more able hand the task of presenting a connected chain of facts, which may fully gratify the curiosity of the inquisitive reader.

During the middle ages, the greatest part of Europe groaned so much under the burthen of the feudal system, that agriculture could be but little attended to, and the production of some few necessaries of life was all that the labors of the husbandman could furnish to the table of his haughty Lord.—These times indeed afford tempting themes for our romancers and our poets. "The high minded and generous Lord; the gentle lady; the servants who were *children of the house*; the vassals, seeming to be humble members of the same family rather than dependants; the baronial hall; the seasons of festival, and the every day hospitality; these are materials from which imagination may build up an ideal state of happiness not less delightful than fabled Arcadia, and of a loftier character." Unfortunately, a careful and candid investigation of facts can scarcely fail to deprive the picture of its fascinating coloring, and to leave behind, the disgusting image of the most abject wretchedness in the *Villain*,* and in his stern commander that of

* *Villains, villani,* in the barbarous Latin of the middle ages, a name under which the whole class of husbandmen were comprised.

splendid misery. It would certainly not be too bold to assert, that in those fabled ages of happiness, the *lordly feast* was often inferior to the simple meal of many of our American farmers; but the scanty and fastidious chronicles of the times do not allow us to enter into any details. Acorns were still in use in many parts of Europe as a common article of food towards the middle of the eighth century. In proportion as the fields yielded richer harvests, the farinaceous plants yielded a more substantial nourishment, and dearth alone could from time to time oblige the people to have again recourse to such an unpleasant substitute. An instance of this happened in 1548, in the province of Mans, in France, on occasion of a famine. In the southern parts of France, and in Italy, wheat was the only kind of grain which they made use of as an article of food, and it is added, that even in times of dearth, they did not feed in those countries their dogs with oatbread, which towards the same period was in general use among the Scotch. The Norwegians of our days are very fond of this diet, and a French author, of the fifteenth century, says, that he had tasted some bread of this kind, which he found much superior to any other bread. It is known that a very palatable meal may be obtained from oats. Peeled barley seems to have come into vogue towards the end of the sixteenth century. It is much made use of in Germany, and some eastern parts of France, and it is rather astonishing, that so cheap and wholesome an article is so much neglected in the United States. Several writers refer to nearly the same period, the invention of the *flail* for threshing, though it is rather hard to believe, that common sense should not have pointed out at a very early period the utility of this tool. In Spain, Portugal, Italy and the south of France, they separate to this day, the grain from the chaff, by having the wheat trodden under the feet of horses.* The ancients had made use of *hand-mills*, and *water-mills* for grinding. A Bohemian chronicle-writer asserts, that for 12 centuries *wind-mills* have been in use in his country. It is nevertheless probable, that this invention is much more modern, and we may suppose, that it is to be traced

* This is likewise the custom of the East from immemorial time to the present day. See *Clark's Travels* in Russia and the Levant, passim.

back to the crusades, when the Christians brought the knowledge of it to Europe from the East, together with many other objects of industry and agriculture, and a number of plants, for which we are indebted to the Saracens. No other nation has derived so much advantage from the introduction of wind-mills as the Dutch, whose level country precludes the use of water-mills. The whole territory is covered with them, and in the neighborhood of Sardam alone, about eight hundred wind-mills are reckoned on a space of ground of no more than six square miles. In 1726 an attempt was made to apply wind-mills to tillage, and the trial was repeated more recently but without success. The *bolter* is mentioned in a poem of the fifteenth century, but it seems to have come into general use only since the beginning of the sixteenth century.

The infinitely useful discovery of the *leaven* is owing to mere chance. According to Pliny, the Gauls employed the yeast of beer for this purpose. Its use was interrupted for ages, until the beginning of the seventeenth century, when a kind of sweetish bread came into fashion, which, on account of the admixed substances, was more difficultly made to ferment, and required therefore a more active principle of fermentation. The yeast from beer was again had recourse to. But the opinions of physicians were divided concerning its good or bad effects with regard to health. Volumes were written on the subject, and the passions of the combatants were roused to such a pitch, that invectives were frequently used on either part. The dispute was not yet finally settled about the year 1670.

Rye, which had been already known to the ancients, formed in the sixteenth century a considerable branch of agriculture in several parts of Europe. Experience had taught, that in sandy soils this plant thrives much better than wheat. The length of its straw, which is so well fitted for the binding of sheaves, was one more reason for its frequent culture in proportion as the destruction of forests rendered wooden ligaments dearer.

Several species of grains became gradually known. Olivier de Serres, a celebrated French agriculturalist, tried in 1570 to cultivate in his garden the *corn of Smyrna*, or *wonder corn*, with lateral ears. The produce was forty to one.

Buckwheat seems to have been unknown in France in the thirteenth century; at least no mention of it is made by a writer of that period, who is very particular in describing the various esculent plants used in his time. But it was cultivated in England in 1517, and in the Netherlands in 1661. It is probable, that it was transmitted to France by the Moors and Saracens of Spain, as in the French language it bears the name of Sarrasin corn. To the same people the north of Europe is likewise indebted for the introdnction of maize or Indian corn, which in France bears also the name of Spanish or Turkish corn.

Some authors pretend, that Europe was likewise indebted to the Moors for the knowledge of *saffron*, which others assert to have been introduced by a pilgrim from the Levant. The first fields of saffron were cultivated in France towards the close of the fourteenth century. It is said, that until the beginning of the seventeenth century, more than three hundred thousand pounds of this drug was sold annually to the Dutch and to the Germans. France, which in the sixteenth century consumed much more saffron than at present, because almost every dish was seasoned with it, produced likewise a large quantity of this drug, though at present its culture is very much restricted in that country. Saffron was used since immemorial times in the East as a medicine, and there is no doubt, but that the Europeans, who adopted the medicine of the Greeks, sent for it first, on that account, to the Levant, and afterwards reared it themselves. At a later period it was employed as a spice, and finally, as a perfume. Not only were halls, theatres, and courts, through which it was wished to diffuse a pleasant smell, strewed with this plant, but it entered also into the composition of many vinous extracts, which retained the scent of this aromatic substance; and particular oils and essences were prepared from it.

Towards the middle of the sixteenth century, several attempts were made to introduce into the south of Europe the *sugar-cane*, which is indigenous in the East Indies. Some provinces of Spain are the only parts of Europe which have reared this plant permanently. The culture of *rice*, likewise a native of the East, succeeded much better. Spain, Italy, and the south

of France engaged in it nearly at the same time, but in many places it was soon relinquished again, as it required stagnant waters, which were productive of intermittents. Its culture was continued, however, in Italy, some provinces of which, particularly the Piedmont, furnish a great part of Europe with this provision.

Melons appear to have come first from Africa to Spain, and from thence to Italy. The conquest of Naples by Charles VIII, king of France, diffused the knowledge of this plant in the latter country, where it became in a short time very common. We have a particular treatise on the culture of melons, written in the French language, from the year 1586. A celebrated agriculturalist of the sixteenth century, advises to make use of glass bells in order to hasten the maturity of melons; an advice which shews how little this practice, now so common, was then known. Languedoc was much renowned for this culture; the Melons of Metz, and of Vicq, which at a later period have acquired so much reputation, were not yet spoken of. The cantaloup melons, which are so highly esteemed in many parts of Europe, are indigenous in South America.

Italy has given likewise to the north of Europe the species of cucumber, called *Serpentine*. *Pumpkins* came from Naples and Spain to France, and from thence te England and Germany. The use of *truffles*, which form on the modern European tables such a delicious article of luxury, seems to have originated with the Spaniards. The *scorsonera* is also due to the same country, and consequently, most probably to the Moors. It began to be cultivated in France towards 1650.

Spinage, indigenous in Asia Minor, is also among the vegetables brought to Europe by the Arabians. Some authors think, this plant might be the *chrysolacca* of the Greeks. La Bruyère Champier, a French writer of the sixteenth century, assures us, that spinage, of which he speaks very ill in a dietetical respect, had been in use several centuries before his time, at Lyons, and especially at Paris, and that the long fast during lent contributed principally to establish its reputation, on account of its forwardness.

Artichokes seem to have been as rare in the time of Pliny as they are now in the United States. This plant appears to be indigenous in Andalusia. Its culture had been abandoned for ages, when it re-appeared as a novelty at Venice, in 1470. Towards the year 1466, artichokes were brought from Naples to Florence, from whence they passed to France in the beginning of the sixteenth century, and to England during the reign of Henry VIII. We must remark, that artichokes being of the family of thistles, this explains sufficiently, why some ancient historians say, that thistles were eaten in their time; we all know for whom the plant commonly known under this name is reserved. The use of the large kind of *beans* and even that of *kidneybeans*, is of very remote date in the west of Europe, but the introduction of the small green peas is of a much later period. The custom which prevails in the polished world, of eating peas only in their first shooting, and to pay for them very dear, is known only since about one hundred and fifty years. *Cardoons* are originally from Spain.

Green cabbage, one of our most common kitchen-vegetables, was carried to the Gauls by the Normans, as likewise the *red cabbage*, which the ancient Egyptians held in so high esteem, that they rendered to it divine honors, and which the Greeks, through a very singular mistake, considered as the most wholesome nourishment. But the *white cabbage* was derived from the north, and the art of making this plant to pome was not known in the time of Charlemagne. Olivier de Serres says, that in his time the cabbage-head degenerated; it was necessary to get every year fresh seeds from Tortosa, Savona, and Briançon. Towards the close of the sixteenth century, *broccoli*, a plant which we would gladly recommend to our American gardeners, was brought from Italy to the northern parts of Europe. *Cauliflower*, another excellent vegetable, almost unknown among us, passed from the Levant to Italy, and from thence to France, Germany, and England. The common *lettuce* is of high antiquity in the west of Europe, but the manner of making it pome, has been found out very late. The species of lettuce known under the name of Roman lettuce, is indigenous in the vicinity

of Rome, and was brought from thence to France by *Rabelais*, the learned and witty satirist.

Lupine, a dish much praised by the ancients, is not yet banished from the tables in Spain and Corsica. Salads, made with the tops of mallows and of hops, were very much in use during the middle ages.—Through a singularity very remarkable in a dietetick respect, every kind of pulse was first made to shoot, before it was employed in the kitchen.

Of about 250 species of trees, which are reckoned by botanists in the west of Europe, more than the three-fourths are of foreign origin. Of these some are cultivated on account of their delicious fruit, others are employed for the purposes of arts and manufactories, and others again have been transported from foreign regions as affording to parks and pleasure-grounds, the most beautiful ornaments. The English *walnut-tree* comes from Pontus, the *cherry-tree* from Cerasonthus; the *olive-tree* from Athens, the *almond-tree* from the East, the *peach-tree* from Persia, the *mulberry-tree* from China, the *fig-tree* from Syria, the *apricot-tree* from Armenia and the *orange-tree* from India.

Among the *animals*, most of those which we use in our days as common food, have formed among the most ancient nations, the principal part of their sustenance. But we have reason to doubt, whether the taste of our readers would relish some articles of this class, which in some countries were, or are even now, considered as luscious dainties. In China they eat the worm of the *May-bug*, and the Sardinians are very fond of the meat of young horses. The Romans, who reckoned *snails* among their table-luxuries, had particular places, where they fattened them. This custom has been preserved to this day in Lorrain and in the country of Trier, where it is by no means rare to see *snail-yards*. This is the name they give to a piece of ground where amidst heaps of small stones and of moss, several thousand of snails are shut up. The place is surrounded with an enclosure in masonry, upon which they fix a net of wire-work, with the edges turned inside, to prevent these animals from escaping. Snails were often sent before the present war, from the coast of the Ocean in cargoes to the West-Indies; they are eaten in Spain and in Germany, but extremely seldom at

Paris. The manner of preparing this dish is by boiling, frying in butter, and sometimes stuffing with forced meat. The sliminess is considered as the greatest delicacy, and therefore remains after dressing. Snails close in catholic countries the list of meager dishes, but they are not eaten from economy, some of them being charged at the *traiteur's*, the same as a plate of beef or veal.

The custom of eating young *asses flesh*, was first introduced by Mæcenas, and brought again into use in France, by the chancellor Duprat. Legrand D'Aussi in his *history of the private life of the French*, endeavors to prove, that in former times they eat of the *whale*. It is certain, that the poor in Japan feed mostly upon that marine animal, as likewise the inhabitants of the Ferroe islands.

Besides the *fishes*, which are indigenous in the northern parts of Europe, those countries made in the sixteenth century the acquisition of several kinds belonging originally to the south: for instance, the *carp*, which was carried to Holland and to Sweden. Mascall introduced the same fish into England in the year 1514, and Peter Oxe into Denmark towards the year 1560.

The *vine* a native from Asia Minor, was zealously cultivated by the Greeks and Romans, who spread its culture likewise in Spain and some other of their southern provinces.*— If we believe Plutarch, an Etruscan exile, wishing to return to his native country with some splendour, engaged the Gauls to undertake its conquest, and in order to give them a high opinion of its productions, he made them taste the *wine* of Italy. According to Pliny, an Helvetian, having spent several years in Rome, imagined first to carry on an advantageous trade by sending the wines of Italy to the Gauls. However this may be, we see, that in the time of Strabo, twenty-eight years after the commencement of the common era, the vine was found on the southern coasts of France, although, according to the same

* Many interesting details concerning the wines of the ancients may be found in the following work: *Observations, historical, critical, and medicinal on the wines of the ancients, and the analogy between them and the modern wines, by Sir Edward Barry, London* 1773-4.

author, grapes ripened with difficulty to the north of the Cevennes. The constant progress made in clearing the ground, having rendered the country less damp, the vine advanced rapidly to the north, to such a degree, that seven or eight centuries after, it was found in countries, which are no longer possessed of it.

The vines of France, the most important perhaps in the world, were twice pulled out by the order of two men, whose names history holds in well deserved execration; viz. Domitian and Charles IX. The first asserted, that the culture of wheat would be more advantageous than that of wine, and in consequence of this false reasoning he had all the vine-yards destroyed, which measure continued in rigor for nearly two hundred years. But towards the close of the third century, the wise and valiant Probus, restored equally peace and vineyards. Charles IX. the second of the tyrants above mentioned, ordered, through a similar motive, to destroy part of the vineyards of the province of Guyenne. Henry III. in 1577, modified this injunction, ordering only the governors of provinces to take care, that the culture of the vine did not encroach in a prejudicial manner upon that of wheat.

Fashion seems to have regulated at different periods the celebrity of wines, as it regulates almost every other thing. The ancient Falernian, Massic and Cæcubian wines have lost their reputation; the same thing has happened with respect to the wines of the neighbourhood of Paris, which in our days are held in a kind of proverbial contempt, after they had preserved their fame to a very recent period. The wines of Thoulouse, of Bordeaux, of Orleans and of Angers, received with more justice very early praises; the wine of Arbois was already reputed in the time of Henry IV, but the vineyard of Coucy in Picardy planted by order of Francis I, was considered as the most precious for its wine, which was reserved for the exclusive use of the king.—A very serious law-suit occasioned by a thesis supported in the medical school of Paris, took place concerning the respective merits of the wines of Burgundy and those of Champaigne, which engaged so much the public attention, that poets enlisted on both sides, to sing in the language

of the gods, the praises of the wine, to which respectively they had given the preference.*

In the sixteenth century an author on agriculture reckoned nineteen different varieties of grapes; their number is at present estimated in Europe to more than three hundred.—The dressing of vineyards during the ages of darkness was like every other kind of culture, ruled by astrological and alchemical dreams.—The art of making *new wine*, was known as early as the twelfth century, as also the art of making white wine with black grapes. More than one hundred years have elapsed, since in certain parts of the territory of Bordeaux they used to mix sugar with wine, to give it more body and to render it more palatable. This method, however, has been given out in modern times as a recent discovery.

The art of preserving wine was very imperfect about the year 1560. An author of that time speaks with astonishment of Burgundy wine kept for six years. It is not long, however, when they preserved still in the cellar of the hospital of Strasburgh,

* The culture of the vine has been by no means yet sufficiently tried in the U. S. The attempts, however, made by the American vineyard Society near Philadelphia, by the Swiss settlers on the banks of the Ohio in Indiana, by the Harmony Society near Pittsburgh and by Mr. Henderson on the Juniata, deserve the greatest praise. The grapes of all these vineyards are greatly deficient in the saccharine principle, which is to furnish the alcohol, and consequently the wine made from them is destitute of body and contains a superabundance of acid.—The Harmony wine is certainly of all the most palatable, which is not so much owing to the local position of the vineyard, a circumstance in which the Swiss vineyard has by far superior advantages, but to the judicious method, and to the persevering labour, with which this industrious bee hive conduct their undertakings. All the vines hitherto cultivated in this country have been transported from Europe. Would it not be worth while to try, how far culture could succeed in improving our native grapes? Besides the various kinds of grape which are common on the east side of the Alleghenies, we find on the Ohio and the Mississippi, two particular kinds of vines, the *vitis æstivolis* and the *vitis riparia*. The grape of the latter is said to be very fine, and there is every reason to suppose, that by careful culture it might be highly improved in its native soil.

what they called *Luther's wine*, to indicate that its age was above two hundred and fifty years. This wine, indeed, was of a disagreeable taste. Crusius furnishes us with a similar instance; in his time towards the close of the sixteenth century, an inscription fixed upon the famous cask of Heidelberg shewed the wine contained in it to be from the year 1343.

We owe the invention of *casks* to the Cisalpine Gauls. The Romans formerly preserved their wines in earthen jugs or in leather bottles, which could not fail to communicate to the liquor a disagreeable taste. Charlemagne recommended to the servants of his demesne to preserve his wine in good barrels [*bonis barillis* are his words] hooped with iron. In rich wine countries, where there was not a sufficiency of barrels, they digged in the ground a kind of cistern, finished in work of masonry, which they filled with wine.

Before the Phocean Greeks had settled at *Massilia*, the modern Marseilles, and that the Romans had yet rendered the Gauls familiar with wine, this people made with the wild honey of their forests a strong and intoxicating liquor, by making it undergo fermentation with water. This was their first artificial beverage, which they called *hydromel*, a kind of mead. Towards the fifteenth century, when domesticated bees had taken the place of the wild ones, and when the abundance of wine had brought into oblivion the use of this liquor, another kind of mead was invented, or perhaps the former beverage was only brought a second time into common use.

Arnold de Villeneuve, a celebrated physician, who died in 1313, speaks of the distillation of *brandy* which before his time had been considered as a secret. *Dutens** thinks, that the ancients were not unacquainted with this practice. Great medical properties were attributed to this liquor, but gradually it ceased to be considered as a remedy, and was used only, for the purpose of the table. In Italy a religious order, founded by St. John de Sienna, and suppressed afterwards in 1668 by pope Clement XI, were not only employed in preparing remedies for the poor,

* In his *Inquiry into the origin of discoveries attributed to the moderns. London*, 1769, 8vo. A book full of curious research, but also with many parodoxical opinions.

but also in distilling brandy, whence they were called *gli padri dell' acqua vita.* But the method of distilling brandy from the husks of grapes, appears to have been a later invention. Spirituous liquors were at the same time extracted, as they are now, from various other fruits, such as cherries, prunes, elder berries, potatoes, &c. For a long time, the Swiss have been in the habit of extracting from the briar, a liquor, which they esteem very highly.

According to Pliny and other authors, the ancients were acquainted with *cider.* Its introduction, however, into France and England is not much older than three centuries. This beverage was first made use of in Africa, and the Biscayans, who were trading in that part of the world, brought the first knowledge of it to their native country. The Normans having afterwards made the conquest of Neustria, and trading with the Biscayans, learnt from them the method of making cider. Contrivances were soon invented to render cider more agreeable to the taste, by the addition of aromatic substances, and to keep it at the same time longer. The rhymer, St. Amand, a zealous panegyrist of this beverage, not contented to give it a decided preference over wine, goes so far as to add, that cider is the potable gold so much praised by chemists. How little was he aware, that what he considered as a very wholesome drink, is but too frequently the fatal cause of heart-burn and bowel complaints, of stone, gravel and gouty concretions!

Before wine was yet very common, several other kinds of drink were made use of, such as *beer, perry,* &c. Pliny attests, that *beer* was drank in his time; but what is more astonishing, is his adding, that they knew how to preserve it for a number of years, this secret being lost for us. Julian the apostate was certainly not fond of beer, as we are still in possession of a Greek epigram, where apostrophising this liquor, he expresses himself nearly in this manner: "Who art thou? no, thou art not the "wine of Bacchus; the son of Jupiter has a breath sweet like "nectar, thine is like that of a he goat!" The honest emperor used in this case rather a harsh language, but, to be sure, he was not altogether mistaken.

Perry was originally made in Normandy, in France. For-

tunatus, in the life of St. Radagunda, queen of France, who being a widow, lived as a penitent, says, that this princess drank nothing but water and perry, which, at that time was the drink of the poor.

There is another beverage of the same kind, made of water, and fermented by wild plums or winter berries. The inhabitants of Paris were reduced to make use of it after a dearth in 1420.

The warm drinks which are now fashionable in the civilized world, were not known in the sixteenth century. Ellis, in a treatise on *coffee*, says, that in 1558, the decoction of this fruit was already in use in Turkey. The Mahometan priests attacked it with the most violent declamations. A Mufti decided, that the friends of coffee were enemies to the law of Mahomet. One of his successors decided to the contrary; whilst the dispute between physicians on the salutary or noxious effects of coffee was not less animated.* Doctors and Muftis will disagree. The introduction of coffee into christian Europe did not take place before the year 1644, when it was brought to France by merchants from Marseilles. The celebrated traveller Thevenot, on his return from the East in 1658, contributed a great deal to establish the reputation of this drink, of which he was himself very fond, and with which he used to treat his friends. In 1669, Soliman Aga, ambassador to the sublime Porte near Lewis XIV. who resided in Paris during one year, began to spread the use of coffee, and lastly, in 1672 an Armenian, whose name was Paschalis, kept a shop in the fair of St. Germain, where he sold this beverage. After the fair was over, he transferred his establishment to Paris. This was the first coffee house which existed, not only in that city, but most probably in christian Europe. From France the use of coffee passed very soon into Germany, England, and the north of Europe.

Chocolate came from South America to Europe about the year 1661. We are indebted for its introduction to the Spaniards, who were the first to prepare this wholesome drink, and who since have carried this manufactory, so slovenly attended to a-

* This dispute has not yet been finally settled by modern physicians.—We have an interesting panegyric on coffee by Dr. Moseley, under the title; *Treatise concerning the properties and effects of coffee, London* 1784, 8vo.

mong us, to the highest degree of perfection. Chocolate came soon into fashion in Italy. Maria Theresia of Austria, wife to Lewis XIV, rendered it familiar in France, from whence its use spread into other countries. The introduction of *tea*, a plant indigenous in China and Japan, is of an earlier date, probably from the year 1636. Europe is indebted to the Dutch for this article of luxury.

LETTER.

WRITTEN FROM THE BATHS OF ST. GEORGE, IN THE SOUTH OF FRANCE, TO A FRIEND IN TOULOUSE.

Translated from the French original manuscript.

[When the following letter was written, France had not entirely emerged from the horrors of anarchy, and yet we perceive in the narrative which it contains, the same light, sprightly, and cheerful dispositions, which so eminently distinguish that people. It is especially on account of this picture of the French national character, that we have deemed these pages worthy to be laid before our readers.]

St. George, July 24, 1799.

MORE than six weeks have elapsed since I left you, my dear friend, and it is only now, that I find a moment of leisure to give you some news of mine. If you knew the constant restlessness and bustle in which I spent the intermediate time, I am certain that you would readily grant me that pardon, which I am sensible that I stand in need of. After a few days of a rapid journey, I arrived from Toulouse at Avignon. I could not withstand the wish of visiting the fountain of Vaucluse, so much celebrated by the unfortunate love and the immortal songs of Petrarch.* I spent two days on the enchanting spot, wandering with Petrarch in my hand

* Francesco Petrarca, born at Arezzo in 1314, received his literary education successively in the cities of Pisa, Avignon, Carpentras, and Bologna. For a long time afterwards he took up his favorite residence at Avignon. It was in this city that he became acquainted with a young lady, the spouse of Hugh de Sades, a nobleman of that country. The attachment of Petrarch to this accomplished lady was not to be over

along that limpid stream, which has not yet lost any thing of that secret spell, which disposes the mind to sentiments of a soft melancholy. I substituted myself modestly to Petrarch, and to his Laura, the imaginary divinity of my heart, and full with these charming illusions, I exclaimed:

Chiare, fresche e dolce acque
Ove le belle membra
Pose colei, che sola a mi par Donna
Date udienza .....
Alle dolenti miei paroli estremi.—*Petr.*

I might have wished to spend my whole life in this terrestrial Paradise, provided I had found there somewhat more real than the shadow of Laura. My romantic dreams

come by any other impression. He continued to celebrate her in his verses, under the name of Laura, not only during her life, but even after her death. From the year 1337 he resided most constantly in the valley of the Sorgue, near the fountain of Vaucluse, where he composed most of his Italian and Latin works. In 1340 the poetical crown was offered him at once by the university of Paris and by the senate of Rome. He accepted of the latter and received this glorious testimony of his genius in 1341, from the hands of the Senator of Rome. After this period he visited but rarely Vaucluse, and he fixed finally his abode at the court of Galeazzo Visconti, duke of Milan. His love of independence was such, that he constantly refused accepting of any public office, if we except some embassies, which he undertook out of gratitude rather than out of ambition. He died in 1374 at Arqua, a country-seat of Francesco Carrara, duke of Padua. Petrarch must be considered as one of the great restorers of ancient literature in the middle ages. But the Italian tongue is still more indebted to him. He had received it from his forerunners in the state of a wild diamond, and he left it to future ages with all the perfection of the most refined polish. Under his hands this idiom gained at once energy, soft harmony, and a flexibility almost unparalleled in any other language. His diction is tender and sweet as his love, his rhythm harmonious, and his images are full of life. The peculiar form which lyric poetry received from him has not yet become superannuated in Italy after the lapse of five centuries, and every poet might even in our days form the ardent wish of being capable of singing like Petrarch. An elegant translation of his sonnets was published some years ago by Messrs. Bradford & Inskeep. Mrs. Dobson's life of Petrarch ought to be in the hands of every person of taste. *Editor.*

followed me to the castle of Mirabeau. Instead of a Laura, or any thing resembling her, I found there only an old woman of fifty years of age; but what a woman! I remember to have often spoken to you with enthusiasm of the marchioness de Cabris,* but the more I saw her, the more I listened to her, the greater was my admiration for this extraordinary female. She seemed to have preserved of the natural weakness of her sex so much only as was necessary to soften the harsher features of a truly masculine character, and of the qualities proper to her age, that prudence only which is requisite to moderate the impetuosity of a too ardent imagination. During all the while I spent at her mansion, all the faculties of my mind were constantly engaged, and I left her finally with the regrets of a son whom his destiny separates for the first time from a beloved mother. I took advantage of my vicinity to visit some of the most picturesque landscapes of Provence and Dauphiny. You have visited them yourself, and I need not tell you how much enjoyment I found in comparing the varied pictures presented to my eyes, with those of a similar nature which I have lately witnessed during my ramble through Germany, Italy and Switzerland. I arrived finally at Valence, a little tired in a physical respect, but my imagination yet full with what I had seen, felt and reflected upon.

It had been my intention to rest myself for sometime at Valence, and to devote some days to my correspondence; but scarcely had I arrived in that town when I was summoned by my friend de Pierremale, to spend with him some days at his seat in the Vivarais, at a small distance from the baths of St. George. To resist such a friendly invitation was im-

* The marchioness de Cabris was sister to count de Mirabeau, whose genius, vices and political career, are universally known. She died in 1808. The manuscript correspondence of that lady during her emigration to Italy, and after her return to France, is in the hands of the editor, who thinks to gratify his readers in some future number of the Gleaner with some specimens of her talents. *Editor.*

possible. I followed the call, and here I am yet, since more than a fortnight.

Such is, my dear friend, the various, and I may add, agreeable manner, in which I passed my time since our late separation. But, will you believe me, the regret of being separated from friends with whom I had spent several months in the bosom of intimacy and mutual confidence, pursued me in my travels, interrupted my meditations, and crept in amidst my pleasures and my amusements. We appreciate fully the value of what we possess only after we have lost our possession. Young as I am, I *knew* this ere now, but since I am far from you, I have *felt* deeply the truth of this maxim. In the moment of separation, the expectation of new sensations, the desire of changing the monotonous scenes of our life, the love of novelty, in one word, flatter us too easily with fond illusions. It is only after the first moment of intoxication is over, and when we begin to be satiated with new impressions, that we recollect ourselves as it were, and that we feel lonesome in the midst of a more or less indifferent crowd. It is then that we perceive how much time, and how many trials, are wanting to cement those loose ties which are so easily formed in society, into ties of a more solid nature, which unite heart to heart, and which death alone can dissolve. But I begin to indulge rather in melancholy reflexions; let us talk of something else. Perhaps you will not be sorry to hear from me some details of my visit at Pierremale and at St. George.

The mansion of my friend is situated at half a mile distance from the river Rhône, on one of the last eminences of the mountains of Vivarais. It commands a rich and fertile valley, over which lofty dwelling houses and humble cottages half concealed by tufted trees, are scattered in picturesque variety; further on, the river Rhône rolls his majestic waters, verdant islands, enamelled with flowers, are here and there sown on its surface, and from time to time you see rapid barges and boats appear and disappear on the fugitive

waves. On the opposite shore of the river you distinguish amidst a great number of smaller towns and of villages, the ancient walls of the city of Valence, the cultivated plains of Dauphiny, finally, the imposing ridge of the Cottian Alps with their bold peaks partly covered with eternal snow. A silvery stream which is seen far off along a chain of mountains marks the course of the Drôme, and the handsome bridge built over this river, at a small distance from Livron, concludes this charming landscape.

If I was ravished with the beauty of the site and of the prospect, I was not less satisfied with the family of my friend. An aged father and four aunts, all spinsters, the youngest of whom may be about sixty, compose its members. These five persons are all very devout, but at the same time very tolerant and very affable; the ladies are very gay considering that they are old maids, and are talking but sparingly of the corruption and perversity of the present generation. They received me as if I had been an ancient friend of the house, who had deserved the gratitude of all its members. Nevertheless, I must confess, that notwithstanding all the politeness with which I was loaded, I would have scarcely failed to get soon tired with the society of my habitual companions, if I had not found in the neighborhood a company more suitable to my age and to my inclinations.

At a distance of less than a mile from Pierremale, is situated the village of St. George, a miserable and uninteresting place in itself, but which enjoys a certain degree of celebrity on account of its mineral spring, which is very much resorted to. The chemical analysis of these waters has never yet been undertaken; their temperature is about 75° F. and from some very superficial observations, I may conclude that its principal ingredients are sulphuretted hydrogen, and some little sea-salt. They are principally used in cutaneous diseases, and it is thought by the people of the country, that they admirably assist in procuring the fecundity of married women who have no children. It should seem that St.

George is wonderfully inclined to operate this last miracle. And indeed, less could not be expected from a saint, who was a soldier and a man of gallantry,* and who, in my candid opinion—which I hope you will not betray to any priest—is a hundred times more worthy than all the crowd of crying and fasting saints, that fill the Paradise, not excepting your patron St Julian.

Whatever may be the medicinal effects of the waters of St. George, the place is frequented every summer by a number of people, who resort there only for the the sake of enjoying the luxury of bathing, and the recreation offered by the country and by a cheerful company. I resolved with my friend de Pierremale to partake of the pleasures of the place, and arrangements were directly taken to render our visits at the baths equally easy and comfortable.

The road which leads from Pierremale to St. George, forms all along a kind of terrace, and offers without interruption the prospect which I have already described. From the village to the bathing place there is still a quarter of a mile. The road winds first along the hill in the same direction as before, but on a sudden you double the mountain and the scene is entirely changed. A craggy and gloomy abyss enclosed with naked and barren mountains is presented to your eyes. In the bottom of the cleft you perceive the bed of a torrent which is nearly dry during summer, but the heavy masses of granite which cover its bed

* To such of our readers as may not be initiated in the history of Saints, we beg leave to observe, that St. George of Cappadocia held for a number of years a military command under the emperor Dioclesian, in which he distinguished himself very favorably. His steadfast adherence to the principles of christianity, involved him in the sanguinary persecution which that cruel prince carried on against the christians. He endured several times the torture, and was finally ignominiously drawn through the city of Lydda and beheaded in 260. St. George is commonly depicted on horseback, armed cap-a-pie, and fighting against an enormous dragon, which is no doubt to be understood symbolically. *Editor.*

and which are entirely foreign to the neighbouring strata, attest its impetuosity in the time of storms and heavy showers. Close by this torrent are seen the four small basins which contain the mineral water. Nothing is more strange than the view of this place from the summit of the hill. The eye is first attracted in a striking manner by the motley appearance of a number of umbrellas of the most varying colors, by means of which the bathing people shelter themselves from the heat of the sun. But the surrounding scenery is not less remarkable. For want of a convenient accommodation every one is obliged to undress under the favor of any occasional screen, and in consequence of this, you see behind one rock, a neat petticoat, dropt with agility, and behind another, the prettiest foot, and a leg most elegantly shaped, vanishing before your sight at the moment when you had just enjoyed a glimpse of them.—The hairy breast of a vigorous man, who has just divested himself of his last garments, forms a singular contrast with the snow-white bosom, which may be rather guessed at than seen, through the green foliage of the brush-wood. Here a slender maid, who enters the bath dressed in a long grey gown, recalls to your mind the *grey penitents* of former times; elsewhere, a trembling naiad is seen coming out of the bath, and her gown, closely attached to her body, marks out contours that might have served as a model to Phidias. I descend finally into the gully; I approach the basins, and a picture still more curious presents itself to my eyes. Here a young stripling supports on his lap an old woman with but one tooth, wrinkled and dried up like parchment; the painted face of a coquetting belle shews itself close by the neglected countenance of a churlish countryman; a cumbersome enormous person, in comparison with whom, Goliath himself would have been but a little boy, crushes almost by his weight a delicate young lass, who has the misfortune to be placed next to him. In one word, all conditions in life, ages, sexes, and every thing besides, are inter-

mingled. One might sometimes be at a loss how to find out his proper limbs, or at least how to recover the free use of them.

This state of crowd and confusion gives naturally occasion to a number of accidents, sometimes ludicrous and burlesque, and occasionally, a little tragical; but the pencil of a Hogarth would be required to give a full and true delineation. Buffoons, jesters and wits, find ample occasion to display their talents; every character shews itself, without restraint as without reserve, and the observer enjoys here the best opportunity of improving his knowledge of mankind.

The habit of seeing one another every day twice in the bath, and of meeting nearly every moment and every where, establishes, after a short while among the visitors of the place, not only a superficial acquaintance, but likewise a kind of familiarity. You enter any house without ceremony, and almost at any time of the day, you leave the company abruptly and return again, just as the impulse or the caprice of the moment may dictate. The intervals between the bathing hours are filled with walking, playing at cards, and a thousand childish pastimes. The end of the supper is the signal for the opening of the ball. You know, my dear friend, I am not fond of dancing, but still I have taken my part, as spectator at least, of all the amusements of the company; I have forgotten for a moment my more serious pursuits, to think only that we must enjoy youth and the fine season of the year. My condescension—if I may be permitted to speak so arrogantly from the heights of my philosophy—has gained to me the gratitude of all our pretty bathing ladies, and I must candidly confess, that I am not a little proud to have possessed fortitude enough to escape all the dangers that surrounded me, with a free heart and with a clear conscience.

There is very little good in this world unallied with some evil, and these days of careless cheerfulness would have been

perhaps too happy, if the course of my pleasures had not been interrupted by a little accident, which cost me a very bad night. As I have just now all the leisure necessary to write, and you probably that of reading me, I shall relate to you the adventure.

I was on my return from a short excursion on horseback, which I had made in the neighborhood of St. George, when near the village of *Charmes*, on the banks of the Rhône, I fell in with three *gendarmes*,* who asked from me my passport. I had left it at Pierremale, but I told them who I was, from whence I came, where I was going to. Any thing, however, I could say, did not satisfy them. I begged them to follow me to St. George, where I would furnish them with every possible satisfaction—all was in vain. I was told, that I was to be conducted to St. Peray, a borough at the distance of about 12 miles, where I could find means to justify myself by sending for my papers. I was forced to yield. Sad and silent, I proceeded along with them. I conjured my guides only to conduct me, upon our arrival in that place, to a respectable gentleman whom I had seen at St. George, and who, without doubt, would either relieve me from my captivity, or else obtain permission to exercise towards me the rights of hospitality. I was promised they would do so. Meanwhile, night had come on; no moon-shine; not a star to lighten our lonely way. The coarse jokes, and the brutal behavior of my companions, were little calculated to diminish my uneasiness. Finally, I calculated that we must be very near to the place of our destination. But what was my astonishment, when, instead of pursuing the level road to St. Peray, we ascended a steep path, which leads to the summit of the neighboring mountain. I asked my guides with anxiety,

* The *gendarmes* are a body of troops on horseback, for the maintenance of good police on the high roads, for bringing in eloped criminals, &c. In the latter times they have been particularly subservient to the support of the various revolutionary governments, and as such are generally detested by all good and honest men. *Editor.*

where they were to conduct me. "You'll see soon enough," was all their answer. We still ascended; finally, the horses stopped short. I had a glimpse of towers, embattled walls, of a draw-bridge, and an enormous, massive gate. One of the *gendarmes* rings the bell—"Who is there?" asks a voice from within. "*Gendarmes*," is the answer. "What's the matter?" "We bring a prisoner." The draw-bridge falls, the gate opens, jarring on its hinges, we alight, and I am made to enter. A pallid figure, with a sepulchral voice, is seen holding in its scraggy hands a lugubrious lamp. Under favor of its glimmering light, I am made to cross several yards, finally I am introduced into a black and smoky guard-room. In a moment I am surrounded with a crowd of Invalids, who are scrutinizing with the utmost curiosity my features and my countenance. In the midst of them, a man with a red bonnet, a tattered accoutrement, peevish eyes, and a large nose, all beset with rubies, makes me almost think that I am in presence of one of the Minoses of the revolutionary tribunals. It is to him I am presented; he interrogates me with self-felt importance about my name, my native country, my quality and my motives for travelling, and he sets down all my answers, by writing in a large Register. Until then I had remained calm and passive, but when I saw myself treated like a criminal, all my indignation burst forth on a sudden. My harangue, nevertheless, served only to excite the barbarous laughter of the *gendarmes*. Soon after I was left under the guard of the jailor, who let me know that I had to prepare for taking up my lodging.

Among the people, whom the rumor of my arrival at the castle of Beauregard—for this is the name of the kind of Bastile, where I was*—had collected around me, was also the wife of the commander of the fort. She seemed to pity

* The Bastile of Paris which has gained such an universal celebrity as one of the most dreadful engines of despotism, was not the only building of this kind in France. On the shores of the Atlantic, in Bretagne, at Bordeaux, in the Pyrenees, near the frontiers of Spain, and in

my situation, but her husband being absent, she could not procure my deliverance, yet her kindness provided me with a bad mattress, and a pair of sheets coarser than sail cloth, to enable me to spend, as she said, a more comfortable night.

The jailor led me through a number of long galleries, where every step and every word were resounded by lugubrious Echoes. A winding stair-case, whose steps had partly given way, brought me finally to a fourth story, where we had to pass through a new file of long and narrow galleries. We stopped at length before a small door fastened with two locks and three bolts. The door was opened and I found myself in a large octagonal room. By the faint light of the lamp, I distinguished all around, people lying on miserable beds of straw, and upon enquiring from the jailor who were these companions of my misfortune, I was apprised that they were priests *suspected to be suspicious.*† Without farther delay, my sorry couch was adjusted in a corner of the room, and the jarring sound of the locks and the bolts, could leave me no more any doubt that I had ceased to be free.

I threw myself down on my bed without undressing, and I abandoned myself freely to my sad reflexions. "What a vicissitude of fortune!" said I to myself. "Yesterday only, I found myself at the same hour of the day in the most charming company, esteemed and caressed by those who surrounded me, and not entirely disregarded by the most fascinating person of her sex. And now!"————It was impossible for me to go on with this afflicting comparison. A heavy sigh and a torrent of tears disburdened my heart, but still it seemed to me as if I heard a voice repeating the words of Sterne's Starling: "*I can't get out! I can't get out!*"

the Vivarais, there was other holds of the same description, and under a similar administration. None of these latter have been demolished during the revolution, and these places are used under Bonaparte for equally amiable purposes as they were under the ancient government. [*Ed.*

† A favorite phrase of the revolutionary times in France.—*Editor.*

The fatigue which I had endured during the day, began at last to dispose me to rest. But all the efforts I could make to enjoy the balmy restorer of life were useless.—The whistling of the north wind amidst the ancient turrets of the castle, the watch-word of the centinels: "*Sentinelle garde à vous!*" repeated from half an hour to half an hour; the heavy snoring of some of my companions, not entirely unlike the roaring of a big organ-pipe, finally, the prodigious number of fleas that pestered me, and which occasioned the incessant howling of a dog that was in the room, did not permit me to shut my eyes during one moment of the night. At last day began to dawn, and I could examing at leisure the physiognomies of my comrades. They certainly had very little the appearance of conspirators, several heads of respectable old men impressed me with with the most lively compassion.

One of the priests who chanced to rise the first, enquired with heart-felt interest into the cause of my coming to that place. I related to him my adventure, and asked from him the necessary materials to write without delay, to the commissioner of the executive at St. Peray, under whose inspection I understood the fort was. He satisfied my wishes in the most obliging manner. My letter was written in a moment. The priest called the jailor through one of the vent-holes of the hall. A generous present procured me the promise that my letter would be forwarded instantly, and I obtained, moreover, the permission to take a walk in one of the interior yards of the castle whilst I was waiting for an answer.

Half an hour had scarcely elapsed, when I saw before me——you will judge of my joy—my friend De Pierremale in company of the commissioner of the executive. Fame with her hundred mouths had carried the news of my arrest to St. George, and my friend had not tarried a moment to fly to my rescue. I threw myself into his arms, calling him my deliverer and my saviour. The commisioner made to

me very humbly, his excuses for the mistake of the *gendarmes*; he erased my name immediately from the list of prisoners, and after having tendered my warmest thanks to my officious priest, I left with precipitation a place, which, for the first time in my life had made me feel all the bitterness of captivity.

On my return to St. George, I found a full compensation for the sufferings of a few hours to which I had been exposed. I received instantly the visits of the whole bathing company, male and female, and I can assure you sincerely, that at the price of the happy moments which I spent on this occasion, I would be willing to return a second time to Beauregard.

All this is very much like a scene in one of Mrs. Radcliffe's novels; but you know, that if fiction has sometimes all the appearance of truth, even truth does not always present itself in the shape of probability. These trifles, no doubt, did scarcely deserve to be related with so much minuteness; but in the eyes of friendship, trifles may sometimes acquire some value. At any rate, if my long letter has occasioned to you some tediousness, you will punish me with writing an equally long answer, and I shall thank you for the punishment.

Adieu, my dear friend.——

ALBERT.

APHORISMS OF POLITICAL ECONOMY.

[These Aphorisms were written by the Editor some years ago, as an attempt to condensate the elementary and fundamental doctrines of political economy, such as he conceives them, into the smallest possible compass. Should the specimens, which will be communicated in some successive numbers of the Gleaner, meet with the approbation of those who are competent to judge in these matters, the author would be encouraged to publish the whole in a separate small volume.]

INTRODUCTION.

¶ 1. If it were possible, that a man of a sound and cultivated understanding, yet unacquainted with the phenomena, which

society in its most improved state presents to our eyes, was at once introduced as by enchantment into a rich, populous and mercantile city, he would be naturally led to inquire with anxious curiosity; which is the origin of all the wealth before him? in what manner it is distributed? which are the springs that give to this artificial machine support and activity? finally, what can or ought to be the action of government upon national wealth, in order to preserve and to multiply it, and to apply it to the prosperity of the Commonwealth?

¶ 2. The science, which furnishes us with the solution of these various questions, is called *Political Economy*.

¶ 3. Political Economy in the widest sense of the term, includes two different branches: viz. 1, political economy properly so called; 2, the theory of finances.

¶ 4. I. *Political Economy properly so called*, developes the origin and the distribution of national wealth among the various classes of society, investigates the nature and propriety of those artificial contrivances, by which national wealth is increased, diffused and supported; and lastly, examines the measures by which it is in the power of legislators to multiply population, national resources and artificial wants.

¶ 5. II. *The theory of finances* points out the sources from which governments can, or ought to derive the contributions requisite for the support of the state and the public necessities; shews the most convenient mode of gathering public taxes, and indicates the means by which the most perfect administration of the public treasure may be attained.

¶ 6. The history of every nation and of every age, presents us with numerous instances of the fatal influence which the errors of legislators and of governments, have exercised upon public prosperity; and furnishes us many convincing proofs, of the necessity of reducing this branch of political science to general and solid principles, equally applicable to the circumstances of all agricultural nations.

BOOK I.

POLITICAL ECONOMY, PROPERLY SO CALLED.

CHAP. I.

On the relation of wealth with the destination of man.

¶ 7. All organized and animated beings have a destination, which is assigned to them, and which they have to accomplish in the course of their existence. This destination, is recognised by the organs and by the faculties which Providence has bestowed upon them, as it would be impossible to imagine, that either have been given to them to no purpose.

¶ 8. *Animals*, though endowed with some faculties which belong to man, are still deprived of those, which alone could raise them to the rank of intellectual beings. Not only are they destitute of the faculty of acting from free choice, but also incapable of imitating one another, not only from species to species, but also from one individual to another in the same species.—Hence their moral as well as their physical faculties were to be the mere result of the gradual and *necessary* evolution of their organization, and they are in the most absolute impossibility to deviate from the destination which they have to acco nplish.

¶ 9. *Man* alone was destined to be capable either to conform himself *from his own choice* to the destination which he has to accomplish, or else to deviate from it. He possesses therefore the faculty of imitation, by means of which he is enabled to adopt the moral habits of others, and the faculty of deliberation, by means of which he conducts himself according to the dictates of his own will. The former supplies during infancy and adolescence the imperfect evolution of his intellectual faculties, whilst he enjoys the second at the age of maturity, and on that account becomes responsible for his actions.

¶ 10. Animals are organised in such a manner, that they are not only capable, but also *forced*, to supply themselves with their wants, but nature has prepared every thing which is necessary to that purpose, and has left them only the care to apply the ready materials to their wants by an *immediate* use of their organs. To this they are impelled by coactive powers, which leave them no choice of acting otherwise.

¶ 11. No want whatever is absolutely coactive for man; it depends on him to refrain from the use even of the necessaries of life, and the more he rises by the culture of his mind above the condition of an animal, the more he enjoys that precious *freedom*. But Providence has taken care to attach him to existence and to the preservation of his species, by the allurement of pleasure and by the fear of pain. She has given him for the satisfaction of his wants, means consistent with his freedom, by organizing him in such a manner as to render him capable to produce and to prepare himself, all that these wants may require. Finally, to render his stay on earth still more agreeable, she has given him the power to extend his wants indefinitely, or in other words, to give himself as many artificial wants as he should think proper.

¶ 12. Man indeed, may maintain his existence on the mere spontaneous productions of the earth, but endowed as he is with organs, which render him capable of preparing and adapting himself the materials of his wants, he seems to be prohibited by his destination from the exclusive use of the spontaneous productions of the earth, and those tribes which are supported by only the labor of nature, are degrading themselves to the rank of animals.

¶ 13. In the same manner, as man has the power to refrain from the satisfaction of his natural and artificial wants, he has also that of extending them beyond measure, to make an abuse of them, and to convert them into means of his own destruction. Free as he is, any use that he would make of the gifts of nature, was to be the result of his own determination.

¶ 14. Animals, it is true, enjoy the use of the natural productions of the earth [¶ 10] but they are far from comprehending and conceiving clearly the ends to which this use tends, for it is given to intelligence alone to combine means in order to obtain an end. But animals are deprived of this precious faculty, because nature having provided immediately for their wants, it was unnecessary to them, and because on the other hand, intelligence would have emancipated them from the servitude of man, for whom they seem to have been created.

¶ 15. Man is the only being on earth, who, being endowed with organs that render him capable of shaping and adapting the productions of nature to various purposes, enjoys at the same time the precious faculty of intelligence, which renders him capable of using these organs to provide for the wants, the commodities and the pleasures of life. It is by the united exertions of his organs and of his intelligence, that he becomes in some measure the sovereign of the earth.

¶ 16. Man, however, though destined to be an intelligent being, is not so as necessarily as animals are destitute of intelligence. This faculty is in him only a possible one. To realize it, it is necessary that he should make use of his organs; for, as to shape and to adapt the natural productions of the earth to various purposes, is to combine means to obtain some end, and as to combine means to obtain an end is an act of intelligence, it is evident, that by this application of his organs, man must at the same time develop his intelligence, and the quantity of actual intelligence developed in man by the exertion of his organs, will be equal to the quantity of uses to which he adapts the natural productions of the earth.

¶ 17. The various degrees in which men make use of the natural productions of the earth, may be ranged into three different classes. In the first, men, like animals, maintain their existence without artificial wants, on the spontaneous natural productions of the earth; in the second, they maintain themselves with the assistance of their organs, but they limit their use to the mere satisfaction of their natural wants; in the third mode only, they produce and shape the productions of the earth, not only for the satisfaction of their natural wants, but also for that of their artificial wants.

¶ 18. It is evident, that the first mode is inseparable from a state of mental torpor; that in the second, intelligence begins to be developed, but that it is only in the third mode that the human species becomes capable of developing all the intelligence of which it is susceptible. The quantity of intelligence is consequently always in a direct ratio with the quantity of wants.

¶ 19. It is not necessary in this order of things that every

individual should actually make use of his organs; for, as it is not in the mechanical operations of the bodily organs, that intelligence consists, but in the combination of means proper to effectuate an end, it is clear, that he, who understands the use to which the organs of another have shaped and adapted any thing, appropriates to himself from that moment all the intelligence which is comprised in that operation.

¶ 20. Nor is it any more necessary, that every individual should multiply his wants in order to improve his intelligence; for, as wants develop the intelligence of man only as far as they incite him to combine means for their satisfaction, and as it is possible to comprehend the means without having the wants which they are destined to supply, it is clear, that it is sufficient to understand fully the wants of others and the means by which they are supplied, to participate in all the intelligence which may be thus developed.

¶ 21. Lastly, we do not derive all our intelligence from the use of our organs; we are on the contrary indebted for its most sublime part to *reason*, or the superior intellectual powers.—But it is absolutely necessary that in the order of the gradual evolution of human intelligence, the use of the bodily organs should precede that of the superior intellectual powers, which until then remain in a state of torpor, and which seem to take up the further culture of intelligence at the point where it had been left by the exertions of the bodily organs.

¶ 22. Thus, the more men will extend the use of their organs, the more they will become capable of extending that of their superior intellectual powers, and the more these will be developed, the more they will become capable of extending the use of their organs, by means of that mutual assistance, which these different powers afford one to another.

¶ 23. Artificial wants, luxury and wealth, appear consequently to be intimately connected with the moral and physical nature of man. Without these wants there is no intelligence, and without intelligence no moral freedom. And what would be the dignity of man, were he deprived of that precious character, which alone delivers him from the yoke of an unavoidable necessity?

(To be continued.)

REVIEW.

"VIEWS OF LOUISIANA." BY H. M. BRACKENRIDGE, ESQ.
1 Vol. 8vo. pp. 300.

Published by Cramer, Spear & Eichbaum, Pittsburgh.

WE took up the volume before us, with no common degree of expectation. The interest of curiosity excited by a widely extended country, so little known until now,* which forms so valuable a portion of our territory, and upon which, the philosopher, the politician, and the speculator, are equally called

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* We are not absolutely deficient in geographical and statistical accounts of Louisiana, but the greatest part of them treat almost exclusively of the country which is now comprised under the name of the state of Louisiana, and the old settlements along the Mississippi. The part of Louisiana situated west of the Mississippi, has been only lately explored, and even the old settlements have undergone so many changes in the course of the last twenty years, that the accounts given of them by former writers are more or less superannuated.—This remark applies *partly* even to *Maj. Stoddard's Sketches of Louisiana*, which, though published so late as 1812, appear to have been written in 1804 or 1805, without having received afterwards any considerable addition. The principal of the more ancient works are:

Histoire de la Louisiane, contenant la découverte de ce pays, la description géographique, un voyage dans les terres, l'histoire naturelle, les moeurs et la religion des Naturels aver leur origine, &c. Par Mr. *le Page du Pratz.* à Paris 1758, 3 vols 12mo.

Etat présent de la Louisiane p M. *Champigny.* à la Haye 1776. 8vo.

Memoire sur la Louisiane par Mr. *de Vergennes.* Paris 1802 8vo.

Voyage à la Louisiane, et sur le continent de l'Amérique septentrionale, fait dans les années 1794 á 1798 p. *B. D.* [*Baudry de Lozieres.*] ib. 1802 8vo.

Second Voyage à la Louisiane, faisant suite au premier de l'auteur, de 1794 à 1798 par *Baudry de Lozieres.* ib. 1803. 2 vols. 8vo.

Vue de la colonie Espagnole du Mississippi ou des provinces de Louisiane et Floride occidentale en l,année 1802 par un observateur résidant sur les lieux. [*B. Duvallon.*] Paris 1803. 8vo.

To which may be added: *Pike's* Account of an Expedition to the sources of the Mississippi, and through the western parts of Louisiana. Philadelphia 1810. 8vo.

to fix their attentive regards, would alone be sufficient to secure a welcome reception in the American public, to any work of that kind, executed with but common talent. But a production from the pen of Mr. H. M. Brackenridge, appears under still more favorable auspices. The name of his father is by no means unknown in the annals of genius, and some statistical sketches of our author, which have found their way into the newspapers, were calculated to give a very advantageous opinion of his talents. An attentive perusal of the work has fully justified those sanguine anticipations, and we may presume to assert, that this volume, though perhaps imperfect in some respects, forms still a very valuable accession to the stock of our geographical and statistical knowledge, concerning our own country, and deserves to find in every library an honorable place at the side of a Williams, a Belknap, a Jefferson, and a Ramsay.

We shall not attempt to present to our readers an analytical extract of this work, which, containing so many details, scarcely admits of a general abridgement. But in order to justify our opinion of Mr. B's performance, we shall select such passages, as may be easily detached from the whole, and which, at the same time, may convey some useful and entertaining information.

Mr. B. gives us the following general view of Louisiana:

"This country" says he, "is at least, one third larger than the rest of the United States, and contains little short of one million and an half square miles. But we should be greatly deceived if in estimating its importance we take into view only its geographical extent. Constituting the central or interior part of North America, the greater portion of it, is at too remote a distance from the ocean to have an easy and advantageous communication with the rest of the world. When compared to other parts of America it may be considered as badly watered, and devoid of that facility of intercourse from navigable rivers which they possess. I am to be understood, as speaking of Louisiana generally; there are exceptions to these general observations: the territory of the Missouri, and the state of Louisiana, are amply sufficient to make amends for the unpromising character of the remainder, they may be justly reckoned amongst the most interesting portions of the American empire.

From what has been already said, it will be seen that the prevailing idea of those western regions, being like the rest of the United States,

susceptible of cultivation, and affording endless out-lets to settlements, is erroneous. These out-lets when compared to the extent of country are extremely limited; they are much less considerable than on the eastern side of the Mississippi. The natives will probably remain in quiet and undisturbed possession, for at least a century, for until our country becomes in some degree surcharged with population, there is scarcely any probability of settlers venturing far into those regions — A different mode of life, habits altogether new and suited to the situation, would have to be adopted. Settlements would have to be strung along water courses at such distances from each other, that they could not protect themselves from the wandering tribes. The distance from market, and the difficulties of reaching it, would render the agricultural produce of little or no value. Yet, I am convinced, that did not the Indians possess it, there would in a very short time, be many small groups of settlements scattered through it. This country, it is certain, can never become agricultural, but it is in many respects highly favourable to the multiplication of flocks and herds. Those delightful spots where the beauty and variety of landscape, might challenge the fancy of the poet, invite to the pastoral life. How admirably suited to that interesting animal, the sheep, are those clean smooth meadows, of a surface infinitely varied by hill and dale, covered with a short sweet grass intermixed with thousands of the most beautiful flowers, undeformed by a single weed!"

The lakes and rivers of Louisiana are described by Mr. B. with great accuracy. His voyage up the Missouri, and the interesting expeditions of Lewis and Clark, have enabled him to give of this king of rivers, a more interesting and detailed account, than we may find elsewhere. With respect to the Mississippi, which is likewise very ably delineated, Mr. B. seems to favor the idea, that there was formerly an out-let from lake Michigan to the Mississippi by the Illinois. We will hear him on this subject.

"It is remarkable, that the water of nearly all the lakes drained by the St Lawrence, has sunk several feet, and there are evident marks in the present channel of the Illinois, of having once contained a stream of much greater magnitude. This opinion might be strengthened by another fact within my own observation. The bluff which encloses the alluvion on the eastern side, at present distant several miles from the river, appears in places, in bare precipices of limestone rock, similar to that immediately on the river, and what is singular, bears evident marks of attrition by the waters, to the height of at least ten feet above

the highest floods. The same thing may be also observed on the western side. Possibly the river may have been once six or seven miles wide at this place, and included between the bluffs. Or there may have been a lake, which by the operation of various causes may have been drained. This idea suggested itself to me from the examination of a remarkable place on the Mississippi, eight or ten miles above the village of Cape Girardeau, called the Grand Tower, which, though scarcely known, may be justly considered one of the greatest curiosities of the river. At this place the bluffs on the western side are close to the river; and on the eastern, a narrow bottom lies between it and the bluffs; the hills on both sides at this point, seem to converge, and from the appearance of huge fragments of rock, one is led to believe that here was formerly a cataract. The tower is one of these fragments, about sixty yards from the western bank, (which is a steep rock) and is about fifty feet in height; its form nearly circular, some handsome cedars growing on the top: on the opposite side of the river there is another huge detached rock, but round which the water does not flow except in extraordinary floods; between this and the bluffs there are several other fragments of rock, possessing every appearance of once having formed a regular chain, through which the Mississippi, by the aid of time, or some convulsion of nature has made itself a channel. It is a dangerous place and difficult to ascend as well as descend in safety. Between this, and the mouth of the Ohio, there are to be seen in various places, detached rocks on the shore, and on the heads of islands, evidently rolled down by some mighty and unusual current."

We are much indebted to Mr. B. for the care he has taken to collect these and similar facts. Of all the sciences, which have exercised human ingenuity, none perhaps is less advanced than geology. The spirit of hypothesis, which has been so happily proscribed from the dominion of other sciences, has even in our days maintained its empire in this particular branch of our knowledge. It is not sufficiently understood, that we are not yet in possession of a sufficient number of *facts* to form any thing like an adequate idea of the revolutions of our globe. How far Mr. B's observations are connected with the supposed former existence of an immense lake in the western part of our country, which would have subsided gradually by means of disruptions, we are not prepared to decide, though it cannot be denied, that the facts alleged seem in a great measure to corroborate this opinion.

Though Mr. B. disclaims any pretensions to natural science, his chapter on the indigenous productions of Louisiana, will certainly not be read without interest. Some of his descriptions are equally faithful and animated. Our readers will judge by the following specimens:

"THE GRIZZLY BEAR.

"This animal, is the monarch of the country which he inhabits. The African lion, or the tiger of Bengal, are not more terrible or fierce. He is the enemy of man; and literally thirsts for human blood. So far from shunning, he seldom fails to attack; and even to *hunt* him. The Indians make war upon these ferocious monsters, with the same ceremonies, as they do upon a tribe of their own species: and in the recital of their victories, the death of one of them, gives the warrior greater renown than the scalp of a human enemy.

The Grizzly Bear, is a *non descript*, and much the largest of the species. He is three times the size of a common brown bear, and six times that of an European one. One of them, killed by Lewis and Clark, near the Porcupine river, about two thousand miles up the Missouri, measured as follows:

Round the head	3 feet 5 inches
Round the neck	3 feet 11 inches
Length	8 feet 7½ inches
Round the fore leg	1 foot 11 inches
Talons—in length	4 3-8 inches

Mr. Manuel Lisa, the first who ascended to this country for the purpose of trade, and who spent nine months in it, informed me that they sometimes exceed 1,200 lbs. in weight, and that one full grown, will commonly weigh eight or nine hundred. He possesses an amazing strength, and attacks without hesitation and tears to pieces the largest buffaloe. The color, is usually such as the name indicates, though there are varieties, from black to silvery whiteness. The skins are highly valued for muffs and tippets; and will bring from twenty to fifty dollars each.

This bear is not usually seen lower than the Mandan villages. In the vicinity of the Roche Jaune, and of Little Missouri, they are said to be most numerous. They do not wander much in the prairies, but are usually found in points of wood, in the neighborhood of large streams. The Indians hardly ever venture into the fringe of wood, which borders the rivers, in that great extent of open country, without first setting up a loud and continued shout, in order that the bears, if there be any, may either come forth to attack them, or retire, if they happen not to be so disposed.

In shape he differs from the common bear in being proportionably more long and lank. He does not climb trees, a circumstance which has enabled hunters with whom I am acquainted, to make their escape. The Indians complain that some of their best warriors, have fallen victims to this animal Lewis and Clark's men, on several occasions, narrowly escaped from their attacks. The Grizzly Bear is sufficient to disprove, the idle theories of Buffon or Raynal, as to the impotency of the NEW WORLD in the production of animals."

"THE PRAIRIE-DOG OR SQUIRREL.

"This animal is a great curiosity. It lives in burrows, or as they are commonly called, *towns*, and is about a third larger than the fox squirrel. The head is thick and clumsy, it has large jaws, full, large eyes, but the ear is not prominent, consisting of little more than the orifice. The body is long, and legs short, the tail not much larger than that of a common ground squirrel, and very delicate; the hair short and sleek, of a light grey, excepting on the belly, where it is white.—It is without doubt a species of squirrel, though it has a cloven lip like the rabbit. It makes a noise very similar to that of the ground squirrel, though much louder; and resembling in a slight degree the barking of a very small dog. When at some distance from its hole, which, however, seldom happens, it may be easily caught, but is exceedingly fierce in the first instance; yet in a few days, it becomes perfectly domesticated, and is pleased with being caressed. It seldom drinks; it feeds on the grass which grows around its hole, and remains torpid during winter. These towns are to be found in the large prairies about three hundred miles west of the Mississippi, and are frequently more than a mile in length. The situation chosen, is generally dry, being on the slope of a hill, and at a distance from any water course. When a person approaches, he is assailed by the whole village, with a noise, which as I have mentioned, bears a resemblance to the barking of small dogs. The animals are seen behind small hillocks at the side of their holes: on approaching within a few yards of one of these, the inhabitant instantly retreats to his subterraneous apartments. The wolves have declared war against these curious people, and frequently commit great havoc, in their little republics."

It is a generally admitted opinion that no part of the U. S. is more rich in minerals than Louisiana. The facts stated by Mr. B. fully corroborate this idea. He speaks, however, with becoming scepticism of the *gold*, *silver* and *platinum mines*, which avarice and credulity had sown every where through this coun-

try. The situation and extent of the mineral tracts are marked by him in the following manner:

"Nearest to the Mississippi, and beginning S. on the St. Francis and White river, with its main course and diverging dependencies, perhaps two miles in width, and six hundred in length, is the tract of lead mineral; perhaps the most extensive body of any mineral, known in the world. On all the great rivers which traverse this tract, the ore shews itself, in their channels, in a variety of places; as also in ravines where the soil has been carried off. This is the case, on the Maramek, the Gasconade, the Osage, on the Mine river of the Missouri, on the Missouri itself, on la riviere des Moines, and at length on the Mississippi, below the Ouisconsing. At this place it crosses the river, and is seen, though in small quantities, in places round the Michigan. There is very little doubt but that all this extent abounds in lead ore, and may afford thousands of the richest mines.

The lead mines, at present wrought and productive, are those between the St. Francis and the Maramek: extending over a tract of about sixty miles in length, and twenty in breadth: and those at the Ouisconsing, on the Mississippi, above the prairie du Chien. The mines of the prairie du Chien, are still in the hands of the Sacs and Foxes, and wrought by themselves exclusively; but in a very imperfect manner. Last year (1811) they made about five hundred thousand weight, which they disposed of to traders. By some, these mines have been considered the richest yet opened. The Indians are badly provided with tools for mining; a common hoe is almost the only instrument which they use. They merely scratch away the soil a few feet, and the ore may be said, without exaggeration, to be raised in the manner of stones in a quarry. The mode of smelting is equally rude. The ore is thrown on piles of wood, and the lead is afterwards gathered up in cakes, in the shapes and forms assumed by melted lead, when carelessly thrown out on a hearth. It is afterwards melted by the traders, and made into pigs by the use of moulds.

West of the tract of lead mineral, is that of the salines: It runs parallel with the other, but goes further south, and not so far north. The extent is not so well known. This tract affords the most numerous and best salines, of any part of North America. The number on the Arkansas and on the Osage, is surprisingly great."

"Near the place, where this tract crosses the Arkansas, several streams enter it, which are strongly impregnated with salt; among others, the Big Saline, and the Strong Saline, both nearly one hundred yards in width. It is here that the salt rock is said to be found, and

that salt prairies are known to exist. The salt rock (if there be such a thing) has not been described by any person who has examined it.— The notion of its existence was probably suggested by the solid masses of salt, found in low places, which have formed drains, or reservoirs for the higher surrounding ground; after the evaporation of the water, a crust of good salt is left in the bottom, congealed like ice. And of this, there appears to be accumulations. The color is of the purest white; there is usually a mixture of gypsum, and I have seen some pieces penetrated with sparry matter. Considerable quantities are also scattered over the prairies, in a pulverised state, resembling sand; the Indians gather it with the wing of a turkey."

"The volcanic tract, may be placed west of the last, in the slope, and spurs of the Rocky Ridge. It was formerly conjectured from the pumice found floating on the Missouri, that some part of the country, traversed by this river, or its waters, was volcanic; this still remains uncertain. There is no doubt but that many of these appearances arise from the burning of coal banks. Near the Mandans, there are places in which smoke is emitted from the high banks of the river, and putting down a stick into the fissure, fire is instantly communicated. I think it probable, that a close examination of the country, will discover traces of extinguished volcanoes. Mr. Lisa, informed me, that he had been told by Indians, and some of his hunters, that about sixty miles from his fort, on the Roche Jaune, at the entrance of a river, there is a mountain which emits flames. This is about two hundred miles from the mouth of the Roche Jaune. In this part of the country, I am well informed that great quantities of sulphur can be procured; it is found not only in caves, but can be scraped off the prairies in the manner of the salt."

Of those minerals which are found in less abundance, Mr. B. notices especially copper, iron, sulphuret of zinc, antimony, fossil coal, saltpetre, noble serpentine, marble, gypsum, and clays of various kinds.*

Much novel matter is contained in the chapter which treats of the country on the Columbia river. The same may be said

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* A detailed account of the minerals of Louisiana will be given in the new and much enlarged edition, which the editor is preparing of his *Contributions towards a Mineralogy of the Western Country*, a short and imperfect sketch of which was inserted in the *Pittsburgh Magazine Almanack for* 1813, and has been since republished in the *New York Medical Repository*. No. 2 & 3, New Series.

of the whole second book, whose object is the territory of Missouri. The happy spirit of observation which distinguishes our author, and his warm pencil, are every where conspicuous, but they shine in their proper province, when displayed in the picture of natural scenery. Many passages might be quoted as instances, if the limits of our pages did not deprive us of the pleasure of transcribing them.

The manner in which Mr. B. pourtrays the character of the *French Creoles*, transports us with a mixed sentiment of delight and regret, into those fabled times of yore, of which, alas! we can scarcely trace some feeble remains even in our *enlightened and virtuous* country. The picture, we should think, cannot be altogether uninteresting to our readers, as affording *in some respects* a striking contrast with our own manners.

"In the character of these people, it must be remembered, that they are essentially Frenchmen; but, without that restlessness, impatience and fire, which distinguishes the European. There is, even in their deportment, something of the gravity of the Spaniard, though gay, and fond of amusements. From the gentle and easy life which they led, their manners, and even language, have assumed a certain degree of softness and mildness: the word *paisible*, expresses this characteristic. In this remote country, there were few objects to urge to enterprise, and few occasions to call forth and exercise their energies. The necessaries of life were easily procured, and beggary was unknown. Hospitality was exercised as in the first ages, for there were no taverns. Ambition soared far hence, for here there was no prey. Judges, codes of law, and prisons, were of little use, where such simplicity of manners prevailed, and where every one knew how far to confide in his neighbor. In such a state of things, to what end is learning or science? The schools afforded but slender instruction; the better sort of people acquired in them reading, writing and a little arithmetic. The number of those who were lovers of knowledge, and made it a profession, was small. From the habits of these people, it would naturally be expected, that they would have been unaccustomed to reason on political subjects; they were in fact, as ignorant of them, as children are of life and manners These inhabitants were as remarkable for their tame and peaceable disposition, as the natives of France are for the reverse.

Amongst their virtues, we may enumerate honesty and punctuality in their dealings, hospitality to strangers, friendship and affection

amongst relatives and neighbors. Instances of abandonment on the female side, or of seduction, are extremely rare. The women make faithful and affectionate wives, but will not be considered secondary personages in the matrimonial association. The advice of the wife is taken on all important, as well as on less weighty concerns, and she generally decides. In opposition to these virtues, it must be said, that they are devoid of public spirit, of enterprise or ingenuity, and are indolent and uninformed.

They are Catholics, but very far from being bigoted or superstitious, as some travellers have said. They were perhaps more strict observers, formerly, of the rules and discipline of their church, and of the different holy days in the calendar. Their *fetes*, or celebration of these days, were considered, as the most interesting occasions; the old and young engaged in them with the greatest delight, and they doubtless contributed to their happiness. Of late, this attention to the ceremonies of their religion is considerably relaxed, since other objects of pursuit and interest have been opened to their view. The Catholic worship is the only one yet known in the territory, except in private families, and in a few instances of itinerant preachers.

There was scarcely any distinction of classes in the society. The wealthy or more intelligent, would of course be considered as more important personages, but there was no difference clearly marked.—They all associated, dressed alike, and frequented the same ball room. They were in fact nearly all connected by the ties of affinity or consanguinity: and so extensive is it, that I have seen the carnival, from the death of a common relation, pass by cheerless and unheeded. The number of persons excluded was exceedingly small. What an inducement to comport ones self with propriety and circumspection! The same interest at stake, the same sentiments that in other countries influence the first classes of society, were here felt by all its members. Perhaps as many from unmerited praise have been formed into valuable characters, as others from having been unjustly despised have become truly despicable.

Their wealth consisted principally in personal property, lands were only valuable when improved. Slaves were regarded in the light of *bien fancier*, or real property, and in fact, as the highest species. Lead and peltry were frequently used as the circulating medium.

There was but little variety in their employments. The most enterprising and wealthy were traders, and had at the same time trifling assortments of merchandise for the accommodation of the inhabitants, but there were no open shops or stores, as in the United States. There were no tailors or shoe makers; such as pursue these occupations at present, are from the United States. The few mechanics, exercising

their trades, principally carpenters and smiths, scarcely deserved the name. The lead mines, I have already observed, engaged a considerable number. The government gave employment to but few, and those principally at St. Louis. By far the greater proportion of the population was engaged in agriculture; in fact, it was the business of all, since the surplus produce of the country was too inconsiderable to be depended upon. A number of the young men for some time, embraced the employment of boatmen, which was by no means considered degrading; on the contrary, it was desirable for a young men to have it to say, that he had made a voyage in this capacity: and they appeared proud of the occupation, in which they certainly are not surpassed by any people in dexterity. It is highly pleasing to see them exerting themselves, and giving encouragement to each other, by their cheering songs—

——— adductis spumant freta versa lacertis.
Infindunt pariter sulcos; totumque dehiscit
Convulsum remis, rostrisque tridentibus aequor.

But this occupation, amongst many other changes, has been reduced to the same footing as with the Americans. Arising probably from the simple cause, of there having arisen objects of more generous emulation.

What is somewhat strange, there were no domestic manufactures among them; the spinning wheel and the loom were alike unknown. So deficient were they in this respect, that although possessed of numerous herds, they were not even acquainted with the use of the churn, but made their butter by beating the cream in a bowl, or shaking it in a bottle

Their amusements were cards, billiards and dances: this last of course the favourite. The dances, were cotillions, reels, and sometimes the minuet. During the carnival, the balls follow in rapid succession. They have a variety of pleasing customs, connected with this amusement. Children have also their balls, and are taught a decorum and propriety of behavior, which is preserved through life. They have a certain ease and freedom of address, and are taught the secret of real politeness, *self-denial;* but which by the apes of French manners, is mistaken for an affected grimace of complaisant regard, and a profusion of bows, scrapes and professions.

Their language, every thing considered, is more pure than might be expected; their manner of lengthening the sound of words, although languid, and without the animation which the French generally possess, is by no means disagreeable. They have some new words, and others are in use, which in France have become obsolete.

In their persons, they are well formed, of an agreeable pleasant countenance; indicating cheerfulness and serenity. Their dress was formerly extremely simple; the men wore a blanket coat, of coarse cloth or coating, with a cape behind, which could be drawn over the head; from which circumstance it was called a *capote*. They wore a blue handkerchief on their heads: but no hats, or shoes, or stockings; moccasins, or the Indian sandals, were used by both sexes. The dress of the females was likewise simple, and the variations of fashion, few: though they were dressed in a much better taste than the other sex.—These manners will soon cease to exist, but in remembrance and description; every thing has changed. The American costume is generally introduced, amongst the first families, and amongst the young girls and young men universally. I never saw any where greater elegance of dress than at the balls of St. Louis. We still see a few of both sexes in their ancient habiliments; capots, moccasins, blue handkerchiefs on the head, a pipe in the mouth, and the hair tied up in a long queue. These people exhibit a striking difference when compared with the unconquerable pertinacity of the Pennsylvania Germans, who adhere so rigidly to the customs, manners, and language of their fathers. A few years have effected more change with the inhabitants of this territory than has been brought about amongst the Germans in fifty years."

The subject of Indian antiquities, is more philosophically discussed by Mr. B. than we have seen it any where else. He gives us at the same time the description of several mounds, which seem to have escaped the attention of former travellers, and which, in point of magnitude and of regularity of plan surpass any thing that has come hitherto to our knowledge, concerning Indian workmanship. They are situated in the *American bottom*, which is perhaps the richest alluvial land in North America. It extends on the Mississippi from the Kaskaskia to the Cahokia river, about thirty miles in length, and above five in breadth.

"If any vestige of ancient population were to be found," says Mr. B. "this would be the place to search for it—accordingly, this tract, as also the bank of the river on the western side, exhibits proofs of an immense population. If the city of Philadelphia and its environs, were deserted, there would not be more numerous traces of human existence. The great number of mounds, and the astonishing quantity of human bones, every where dug up, or found on the surface of the ground, with a thousand other appearances, announce that this valley

was at one period filled with habitations and villages. The whole face of the bluff, or hill which bounds it to the east, appears to have been a continued burial ground.

But the most remarkable appearances, are two groups of mounds or pyramids, the one about ten miles above Cahokia, the other nearly the same distance below it, which in all, exceed one hundred and fifty, of various sizes. The western side, also, contains a considerable number.

A more minute description of those above Cahokia, which I visited in the fall of 1811, will give a tolerable idea of them all.

I crossed the Mississippi at St. Louis, and after passing through the wood which borders the river, about half a mile in width, entered an extensive open plain. In fifteen minutes, I found myself in the midst of a group of mounds, mostly of a circular shape, and at a distance, resembling enormous haystacks scattered through a meadow.—One of the largest which I ascended, was about two hundred paces in circumference at the bottom, the form nearly square, though it had evidently undergone considerable alteration from the washing of the rains. The top was level, with an area sufficient to contain several hundred men.

The prospect from this mound is very beautiful; looking towards the bluffs, which are dimly seen at the distance of six or eight miles, the bottom at this place being very wide, I had a level plain before me, varied by *islets* of wood, and a few solitary trees; to the right, the prairie is bounded by the horizon, to the left, the course of the Cahokia may be distinguished by the margin of wood upon its banks, and crossing the valley diagonally, S. S. W. Around me, I counted forty-five mounds, or pyramids, besides a great number of small artificial elevations; these mounds form something more than a semicircle, about a mile in extent, the open space on the river.

Pursuing my walk along the bank of the Cahokia, I passed eight others in the distance of three miles, before I arrived at the largest assemblage. When I reached the foot of the principal mound, I was struck with a degree of astonishment, not unlike that which is experienced in contemplating the Egyptian pyramids. What a stupendous pile of earth! To heap up such a mass must have required years, and the labors of thousands. It stands immediately on the bank of the Cahokia, and on the side next it, is covered with lofty trees. Were it not for the regularity and design which it manifests, the circumstances of its being on alluvial ground, and the other mounds scattered around it, we could scarcely believe it the work of human hands. The shape is that of a parallelogram, standing from north to south; on the south side there is a broad apron or step, about half way down, and from

this, another projection into the plain about fifteen feet wide, which was probably intended as an ascent to the mound. By stepping round the base, I computed the circumference to be at least eight hundred yards, and the height of the mound about ninety feet. The step, or apron, has been used as a kitchen garden, by the monks of La Trappe, settled near this, and the top is sowed with wheat. Nearly west there is another of a smaller size, and forty others scattered through the plain. Two are also seen on the bluff, at the distance of three miles. Several of these mounds are almost conical. As the sward had been burnt, the earth was perfectly naked, and I could trace with ease, any unevenness of surface, so as to discover whether it was artificial or accidental. I every where observed a great number of small elevations of earth, to the heighth of a few feet, at regular distances from each other, and which appeared to observe some order; near them I also observed pieces of flint, and fragments of earthen vessels. I concluded, that a very populous town had once existed here, similar to those of Mexico, described by the first conquerors. The mounds were sites of temples, or monuments erected to the memory of great men. It is evident, this could never have been the work of thinly scattered tribes. If the human species had at any time been permitted in this country to have increased freely, and there is every probability of the fact, it must, as in Mexico, have become astonishingly numerous."

The section which is devoted to the state of Louisiana, has appeared to us the most defective, not on account of that which is imparted to us, but on account of that which we might have expected. It forms but a slender portion of the whole work, and some of the most important articles are passed over with complete silence. The city of New Orleans even, that rich emporium of our western produce for the foreign market, is not mentioned with a word. And still what a fine subject for Mr. B's happy talent of intuitive representation, his faithful delineation of men and manners, and his gift of connecting individual facts with considerations of public and national felicity! We cannot explain this omission otherwise than on the score of his wish to do full justice to such an important matter, in completing the materials which he must have collected, by his own observations and by farther researches, and we may trust that this desideratum and some others of the same kind, will be done away in a second edition, which the favorable reception of the first will soon render necessary.

The journal of a voyage made by Mr. B. up the Missouri and which concludes the volume, is upon the whole, barren and monotonous. But this is undoubtedly the fault of the subject, and not that of the author. Howsoever majestically the muddy Missouri may roll its waters through the wilderness, there is still no doubt, but that the little yellow Tiber,* for instance, with the proudest city of the world on its banks, and surrounded with a country rich with the gifts of nature, and still more rich with recollections of the past, will furnish the traveller with scenes, feelings and ideas, which the former can never present. Anticipating imagination may indeed, people the desert, build large and magnificent cities, and fill them with heroes and statesmen, with philosophers and poets, with artists and artisans, yet the forms of the future are vague and fluctuating, those of the past and of the present are defined and stationary. And after all that may be said of the awful beauty of wild nature, it is the presence of man only and his works that give a real value even to the most enchanting landscape. It is on that account, likewise, that Mr. B's journal becomes more interesting, after he has arrived at the Indian village of Arikara which formed the term of his voyage. The picture which he gives us of savage life is not altogether so charming, as some philosophers of the eighteenth century had imagined it to be, at three thousand miles from any place, where savages could be seen, but it bears every intrinsic mark of truth and faithfulness. It is still remarkable, that even in this degraded condition of the human species, the original traits of the moral nature of man are not entirely extinct or eradicated. Of this Mr. B. gives among other proofs, one instance, of which he speaks himself with astonishment. After some reflections on the indelicate principles and still more indelicate habits, which prevail amongst these people in the intercourse of both sexes, he proceeds thus:

"From the remnant of a singular custom which prevails amongst them, one might suppose that this had not always been the case. On a certain occasion, a great number of young girls were collected before the medicine lodge or temple, prizes were exhibited, and a cedar bough

* Flava Tiberis.

was stuck on the lodge; the old men who reside in the temple, proclaimed, that whoever was yet a virgin, should come forward and touch the bough, and take the prize; that it was in vain to think of deceiving, the *manitou* would reveal every thing; the young men were moreover required to declare against any one who should attempt it, all they knew. A young metiff, daughter of the interpreter, a beautiful girl of sixteen, came forward, but before she could ascend to touch the bough, a young fellow stepped out and bade her remember a certain place!—She withdrew, confused and abashed. There was a pause for a considerable time; I began to tremble for the maidens of Arikara, when a girl of seventeen, one of the most beautiful in the village, walked forward and asked, "where is the Arikara who can boast of having received favors from me?" then touched the bough, and carried off the prize. I feel a pleasure in adding, for the honor of the ladies of Arikara, that others followed, though I did not take the trouble of noting the number."

Though we are conscious to have given of Mr. B's. work a very incomplete idea, yet we have said enough to recommend it to the attention of our readers. Some deficiences have been pointed out, and many more might most probably be noticed by those, who are better acquainted with that country than we are. His diction, as far as we are able to judge, is pure and elegant, when he writes *con amore;* but in treating dry details, he skips over them with a hurry and a carelessness which leave him no time to chasten his stile. If in the midst of so many qualities, that render Mr. B. particularly fit to shine in that kind of literary composition, to which he has devoted himself, we should suspect him deficient in one, it would be——*Patience.* But this is a virtue, which may be acquired, and which the bitter school of adversity will sometimes teach even the most ardent mind.

MISCELLANIES.

THOUGHTS AND MAXIMS.

If I should labor, for any other satisfaction, but that of my own mind, it would be an effect of frenzy in me, not of hope; since it is not truth, but opinion that can travel the world without a passport. *Horne Tooke.*

Oh remembrance, noble power, thy empire is omnipotent! From age to age, capricious destiny! man mourns over what he has lost. *Madame de Staël.*

Talent dismayed by the desert with which it is surrounded, passes through the universe and finds no associate. This divine emanation has no responsive note in nature, and the vulgar regard as a folly, that restlessness of soul, which seems to want breathing room in the world, and which pants with enthusiasm and love. *The same.*

The object, which appears to us the most humble, is not always the most easily obtained; and very often the cottage and the palace equally elude our wishes. *de Chateaubriand.*

The man of genius, who struggles with adversity, is in the eyes of the world a gladiator, who fights for their diversion, and whom they wish to see expire *gracefully.* *The same.*

Egotism and love divide the human species into two dissimilar classes, whose limits are entirely distinct. Egotism revolves round its own centre; but the centre of love is only within the bounds of creation. Love tends to union; egotism to insulated separation. Love is like the citizen of a flourishing commonwealth; egotism like the despot of a desolated land. Love sows for gratitude; egotism for ingratitude. *Schiller.*

Confidence, this powerful lever of strong minds, becomes a deadly instrument, when made use of with weak and feeble characters. It will raise the hard and compact mass; but it will break the stone that is of a friable nature. *Mde. de Cabris.*

There are some characters, which like certain instruments, want to be touched but slightly. A stronger commotion produces in them a brilliant harmony, but which will last only a moment. The springs being worn out, the cords broken or at least unstrung, are no more of any use, and the musician, for having abused of his riches, ceases soon to enjoy. *The same.*

I have learnt to bear my infirmities, and be wise, when I cannot be merry; easy, when I cannot be glad; content with what cannot be mended, and patient where there is no redress. The mighty can do no more, and the wise do seldom as much.
Lady Montague.

I like to resemble a little the heroes of Homer; they love, they hate, they shed tears, they laugh, they get into a passion and become calm again, and for all that they are still heroes.
Clerdon.

POETRY.

SOLITUDE.

From Lord Byron's "Childe Harold."

To sit on rocks, to muse o'er flood and fell,
To slowly trace the forests shady scene,
Where things that own not man's dominion dwell,
And mortal foot has ne'er or rarely been;
To climb the trackless mountain all unseen,
With the wild flock that never needs a fold;
Alone o'er steeps and foaming fall to lean;
This is not solitude, 'tis but to hold
Converse with nature's charms, and see her stores unroll'd.

But midst the crowd, the hum, the shock of men,
To hear, to see, to feel, and to possess,
And roam along, the world's tir'd denizen,
With none who bless us, none whom we can bless;
Minions of splendor, shrinking from distress!
None that, with kindred consciousness endued,
If we were not, would seem to smile the less,
On all that flatter'd, follow'd, sought and sued;
This is to be alone; this, this is *solitude*.

HYMN,

WRITTEN AMONG THE ALPS BY MISS HELENA MARIA WILLIAMS.*

Creations God! with thought elate
Thy hand divine I see
Impressed on scenes, where all is great,
Where all is full of thee!

Where stern the Alpine mountains raise
Their heads of massive snow

* The Editor of the Gleaner republishes this Hymn, not only on account of its intrinsic value, but also—should these pages ever reach the eyes of the accomplished author—as a token of gratitude for the agreeable moments, that he spent frequently in her house at Paris, in the midst of a chosen and amiable company, which he will always remember with sincere and deep-felt regret * * * * * According to the latest accounts, that we have received, this lady has left Paris and is now residing in the south of France.

Whence on the rolling storm I gape
That hangs——how far below!
When on some bold, stupendous height
The eagle sits alone;
Or soaring, wings his sullen flight
To haunts still more his own.
Where the sharp rock the *chamois* treads,
Or slippery summits scales;
Or where the whitening snow-bird spreads
His wings to icy gales.
Where the rude cliff's steep column glows
With morning's tint of blue,
Or evening on the *glacier* throws
The rose's blushing hue:
Or where by twilight's softer light
The mountain-shadow bends;
And sudden casts a partial night,
As black its form descends.
Where the full ray of morn alone
Down the deep valley falls;
Or where the sun-beam never shone
Between its rifted walls:
Where cloudless regions calm the soul,
Bid mortal cares be still,
Can passion's wayward wish control,
And rectify the will?
Where 'midst some vast expanse the mind,
Which swelling virtue fires,
Forgets that earth it leaves behind,
And to its heaven aspires.
Where far along the distant air
Is heard no creature's call;
And undisturbing mortal ear
The *avalanches* fall:
Where rushing from their snowy source
The daring torrents urge
Their loud-toned waters headlong course,
And lift their feathered surge:

Where swift the lines of light and shade
Flit o'er the lucid lake;
Or the shrill winds its breast invade
And its green billows rake.

Where on the slope with speckled dye
The pigmy herds I scan;
Or sooth'd the scatter'd *chalets* spy,
The last abode of man.

Or where the flocks refuse to pass,
And the lone peasant mows,
Fix'd on his knees, the pendant grass,
Which down the steep he throws.

Or where the dangerous pathway leads,
High o'er the gulph profound,
From whence the shrinking eye recedes,
Nor finds repose around.

Where red the mountain-ash reclines
Along the clifted rock;
Where from the dark unbending pines
The howling tempests mock:

Where level with the ice-ribb'd bound
The yellow harvests glow;
Or vales with purple-vines are crown'd
Beneath impending snow:

Where the rich minerals catch the rays
With varying lustre bright;
And glitt'ring fragments strew the way,
With sparks of liquid light;

Or where the moss forbears to creep,
Where loftier summits rear,
The untrod snows and frozen deep,
Looks all uncolored year:

In every scene, where every hour
Sheds some terrific grace,
In nature's vast o'erwhelming power,
Thee, thee, my God! I trace.